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Cultivating Conservation for Maryland's and Delaware's Historically Underserved Farmers

Abstract

Navigating conservation practices and programs can be confusing and intimidating, especially for farmers who do not yet have a relationship with sponsoring agencies. The USDA identifies four groups of farmers as "Historically Underserved (HU)": Beginning; Socially Disadvantaged; Veterans; and Limited Resource. Despite earmarked provisions and services, HU farmers' involvement with agencies and enrollment in conservation programs remains lower than desired. *Cultivating Conservation* is an educational effort to increase knowledge of conservation opportunities particularly among HU farmers. The program strives to improve the environmental and economic performance of working agricultural lands and build capacity of local partners to develop and implement effective projects. University of Maryland Extension partnered with the Agriculture Law Education Initiative, University of Delaware Cooperative Extension,

NRCS, and Soil Conservation District offices to develop and teach programs. The curriculum covered conservation practices, programs, and sponsoring agencies, how conservation fits within farm planning, conservation contractual agreements, and included opportunities such as touring conservation service centers and meeting local conservation professionals. Programming reached 99 participants at in-person and virtual workshops and 239 participants at other events. Workshop participants completed pre-class, end-of-class, and follow-up surveys. Participants were 67% female and 33% male; 5% *Asian*, 19% *Black or African American*, 67% *White*, and 9% *Two or More Races*. Participants' primary interests included crops (33%), livestock (22%), and value-added products (18%), and 39% of participants hoped to start farming in the near future or were farming <1 year. Most workshop participants (98%) said the program was good or excellent. After completing the program, participants reported gaining a significant increase in knowledge in:

- using the USDA Web Soil Survey tool (37% gain),
- what federal, state and local agencies to contact (28% gain),
- contractual obligations and expectations (40% gain), and
- the role of conservation in a farm production plan (27% gain).

All respondents of the follow-up survey took some action following the workshop: 88% reviewed literature about various programs available, 81% reviewed the Web Soil Survey for their property, 53% contacted their county NRCS office, 69% implemented a conservation practice, 38% visited a USDA service center or participated in tours, and 64% began or created a conservation farm plan. In conclusion, the programs successfully reached and was received positively by HU farmers; however, there is a continued need to reach more farmers with this information. In addition, due to the dynamic nature of conservation programs, curriculum and resources will need to be monitored and modified to ensure up-to-date and accurate information.

Introduction

Conservation is an integral part of farming, particularly for a sustainable, long-term viable operation. Conservation encompasses a variety of resources such as soil, water, air, habitat, and even human capital. For example, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) seeks to "improve the quality of our air, water, soil, and habitat, keep working lands working, boost rural economies, and increase the competitiveness of American agriculture" (USDA NRCS, 2024). There are organized programs through various entities such as federal, state, and local governments, and private and non-profit organizations. These programs provide technical and/or financial support to help farmers and landowners integrate conservation practices into their operations. However, navigating conservation practices and programs can be confusing and intimidating, especially for new or beginning farmers who may not know how to access programs.

The Agriculture Improvement Act of 2018 (2018 Farm Bill) and USDA policy identifies four groups of farmers or ranchers as "Historically Underserved (HU):" *Beginning*; *Socially Disadvantaged*; *Veterans*; and *Limited Resource*. To ensure inclusivity and equitable access to services, the USDA provides special provisions, including specific incentives, waivers, priorities, set asides, etc. to HU farmers, ranchers, and forest landowners (hereafter referred to as "farmers"). Despite earmarked services and provisions, HU farmers' involvement with Federal agencies and enrollment in Federal conservation programs is lower than desired by USDA (Jones, 1994; USDA, 2022). Some groups of HU farmers have a history of mistreatment and discrimination by the USDA, and there is a lasting mistrust of the agency and hesitation to be involved in agency programs (Benson et al., 2022; Carpenter, 2012; Hinson and Robinson, 2008; Jones, 1994).

The Maryland and Delaware region is situated in the Chesapeake Bay watershed, an environmentally sensitive area. Experienced farmers in the Mid-Atlantic region are conscious of their contributions to water quality and incorporate multiple best management practices (BMPs) on their farms through voluntary and cost-share

programs. They have a history and understanding of federal programs, agencies, and reporting processes. Conversely, those new to farming or farmland ownership are often unaware of the programs available, program expectations, or how BMPs fit into their overall farm plan. According to the 2022 USDA Census of Agriculture, in Maryland new and beginning farmers account for 4,391 farms (35% of the total farms) and 428,320 acres (22% of the total acres). In Delaware new and beginning farmers account for 586 farms (27% of the total farms) and 114,465 acres (22% of the total acres) (USDA NASS, 2022). In addition, smaller and non-traditional farmers have less access to information (Liu et al., 2018). Studies found that both access to information and also building relationships and trust between farmers and information sources is important for conservation adoption, and interactions with local conservation personnel correlated with practice adoption (Liu et al., 2018).

A formal needs assessment was conducted in 2015 to learn more about the growing beginning farmer audience. The survey was approved by the University of Maryland Institutional Review Board (IRB) and sent to the beginning farmer listserv (133 contacts). The goal of the needs assessment survey was to determine current education priorities of beginning farmers in Maryland and provide validation for future programming. The survey received 56 responses representing a 42% response rate. Participants were asked to rate the priority levels of educational topics, knowledge areas, and preferred educational delivery methods. Results of the survey specific to this project included a high priority of interest in the areas of knowledge of programs and regulations related to agriculture operations (96%) and knowledge of laws and regulations related to business operations (77%).

Cultivating Conservation is an educational effort to increase knowledge of conservation practices and programs. The curriculum is geared toward educating farmers who do not yet have a relationship with conservation program sponsoring agencies about conservation resources that are available to them. The broader overarching goals of *Cultivating Conservation* are to improve the environmental and economic performance of working agricultural lands and build capacity of local partners to develop and implement effective projects, and to increase knowledge and trust among HU farmers

about conservation agencies, practices, and programs. The curriculum emphasizes the special provisions that are available for HU farmers. Specifically, the goals of *Cultivating Conservation* were for participants to gain an increased:

- knowledge of conservation practices and how conservation fits within the whole farm plan
- understanding of conservation programs and the sponsoring agencies of those programs
- understanding of conservation contractual agreements and program expectations
- comfort level to engage and visit with conservation partners such as NRCS

Methods

The *Cultivating Conservation* program delivered education and outreach through classroom and hands-on experiences. Partners University of Maryland Extension, University of Maryland Agriculture Law Education Initiative, University of Delaware Cooperative Extension, Maryland and Delaware NRCS, and Soil Conservation District field offices were involved in developing and teaching the curriculum. During many of the *Cultivating Conservation* course offerings, participants had the opportunity to meet their local conservation agency partners and tour their local conservation service centers. They also had an opportunity to discuss conservation practices and programs with agricultural and legal professionals. Table 1 summarizes the topics covered in the *Cultivating Conservation* curriculum. An abbreviated version of the curriculum was also developed, which focused on introducing conservation practices and programs, conservation agencies, and contract implications. Because of the abridged nature, participants were encouraged to do the hands-on experiences on their own (e.g., visiting the conservation service centers).

Table 1. *Cultivating Conservation* curriculum modules

Topic	Details
Introduction to conservation and conservation programs	Participants were introduced to conservation practices and completed hands-on activities emphasizing why conservation is important.
Introduction to agencies involved in conservation and programs available through various agencies	Participants were introduced to government agencies involved in conservation at the federal, state, and local levels. In addition, there was a discussion of other groups involved in conservation planning and implementation such as private, non-profit, and University. Participants learned about available programs through various agencies, and how to access programs.
Fitting conservation into your whole farm plan	Participants were guided on how conservation fits into whole farm planning. Participants completed worksheets to help assess their resources and set goals on their farm. Participants were also introduced to and practiced using Web Soil Survey.
Contracts and regulations	Participants learned what is involved and legal implications of joining conservation programs. There was a discussion of eligibility, process, and compliance. Participants also learned about contract components that relate specifically to HU farmers.
Tours and case studies	Participants were able to meet conservation professionals in their locality, tour agricultural service centers, and/or view conservation practices on working land.

Workshops were either held as a series of evening sessions or a single full-day Saturday session (five to six hours total per workshop). The workshop included various teaching strategies, including PowerPoint presentations, an Ice Breaker activity determining how many conservation-related acronyms attendees could define (e.g., NRCS, FSA, EQIP, CRP), and an activity where groups recorded on posters answers to “What is conservation to you?” As part of the whole farm planning curriculum segment, participants completed multiple worksheets to assess their farm resources, inventories, goals, etc. Participants also received supplemental information about programs and opportunities via handouts and website links. In addition, workshops included guest speakers from conservation agencies who gave information and answered participant questions (Figure 1). Some workshops included farm tours to view and discuss conservation practices (Figure 2).

Figure 1. Farm Service Agency director for Baltimore County, MD discussed local practices with Baltimore workshop participants.

Figure 2. *Cultivating Conservation* workshop participants met on a diversified livestock, hay, pasture and grain farm in St. Mary's County, MD and discussed local conservation initiatives such as the St. Mary's Soil Conservation District equipment rental program.

Three surveys were developed to assess participant learning—a pre-class survey, end-of-class survey, and follow-up survey. The surveys were administered to participants who attended the full-curriculum courses, but not the abbreviated programs. The pre-class survey assessed basic information about the attendees, such as if they have started farming and if so, for how many years, how much land they own and rent, the types of agricultural entities they are currently involved with or interested in, their conservation goals, and their demographic information. The end-of-class survey asked participants how they would rate the overall program and what they gained from the workshop. Furthermore, participants were asked how much knowledge they had prior to and following the conservation training concerning: conservation programs and available resources; using USDA Web Soil Survey tool; What federal, state, and local agencies to contact; contractual obligations and expectations; and the role of conservation in a farm production plan. Finally, participants were asked if they intended to take action on several conservation related activities: review literature about various programs online; review Web Soil Survey for their property; contact their county NRCS office; implement a conservation practice; visit a service center or participate in tours; and create a conservation farm plan. The follow-up survey was emailed to participants in February 2024, which was one to two years following their completion of the conservation workshop. The survey asked participants if as a result of the conservation training they took action in all of the same areas that participants were asked about whether they intended to take action (in the end-of-class survey).

Results

The *Cultivating Conservation* curriculum was taught to 65 attendees at six workshops throughout MD and DE. In addition, the virtual program reached 34 participants. The abbreviated version of the course was presented to 239 attendees at other events (Table 2).

Table 2. *Cultivating Conservation* programs

Event	Location	Date	
Future Harvest Conference	Virtual	Jan 15, 2021	35 attendees
MidAtlantic Women in Agriculture Webinar	Virtual	Mar 11, 2021	14 attendees + 28 views
Maryland Association of Soil Conservation Districts (MASCD) Annual Meeting	Cambridge, MD	Aug 2, 2021	30 attendees
Annual Agricultural and Environmental Law Conference	Virtual	Nov 17, 2021	80 attendees
Extension Risk Management Education National Conference	Chicago, IL	Mar 28, 2023	45 viewed
Eastern Shore Women's Specialty Crop Advanced Farmer Network	Easton, MD	Mar 31, 2023	7 attendees

Conservation workshop attendees were 67% female and 33% male (N = 45); 98% *non-Hispanic* and 2% *Hispanic* (N = 42); and 5% *Asian*, 19% *Black or African American*, 67% *White*, and 9% *Two or More Races* (N = 42). Of the participants, 34% were full-time farming, 39% part-time farming, and 27% were not currently farming (N = 44). When asked about how long they have been farming, 26% were not yet started but hoped to start in the near future, 13% had been farming for less than one year, 10% less than five years, 6% for 6-10 years, 16% for 11-20 years, and 29% for over 20 years (N = 31). Of the participants, 74% indicated that they had land to farm, 13% indicated that they did not, and another 13% indicated that they did not yet, but they were looking (N = 31). Most participants that had land indicated that they owned at least part of that land. The agricultural enterprise interests of participants varied (Figure 3).

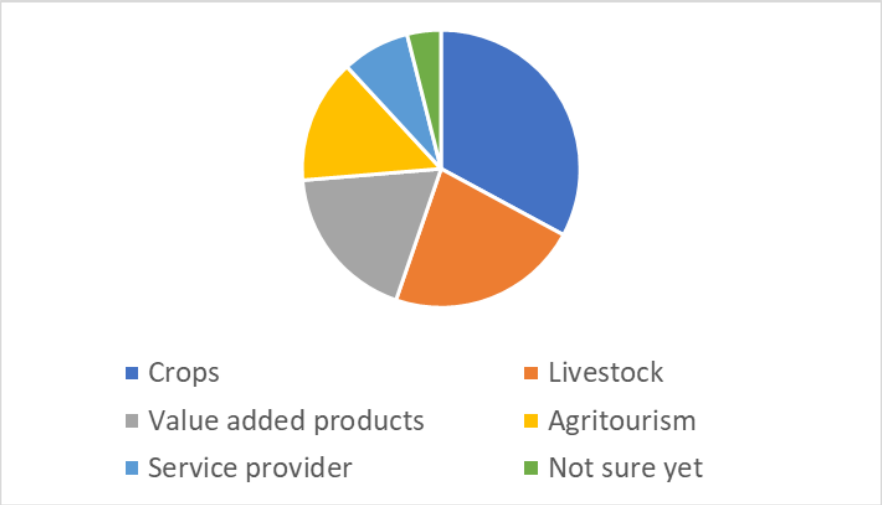

Figure 3. Agricultural entities that participants are currently involved with or interested in (N = 76).

When asked which conservation goals were their top three highest priorities for their farm, 72% indicated, “Ensure better natural resource quality for you, your animals and your neighbors,” 56% indicated, “Maintain or improve soil health,” and 56% indicated, “Contribute to more productive land (Table 3).”

Table 3. Participants top three highest priorities of conservation goals

Top three priority conservation goals	% of participants who selected
Ensure better natural resource quality for you, your animals and your neighbors	72%
Maintain or improve soil health	56%
Contribute to more productive land	56%
Promote health and safety of your family	52%
Contribute to plant health and vigor	52%
Improve animal health	52%
Enhance open space and wildlife habitat	52%
Make your land more attractive and promote good neighbor relations	32%
Prevent off farm environmental impacts	32%
Increase your property value	20%

According to the end-of-class surveys, 98% of workshop participants said the program was good (15%) or excellent (83%) (N = 41). Surveys indicated that 83% of participants gained resource materials they could use, 60% gained answers to their questions, 55% gained names of people to contact, and 33% gained ideas they could try immediately (N = 40).

The increase in knowledge was based on the end-of-class survey questions about how much knowledge they had prior to and following the conservation training. Participants indicated the following growth in knowledge: Available conservation programs and resources was 35% ($p = 0.052$), Using USDA Web Soil Survey tool was 37% ($p = 0.015$), What federal, state and local agencies to contact was 28% ($p = 0.006$), Contractual obligations and expectations was 40% ($p = 0.023$), and Role of conservation in a farm production plan was 27% ($p = 0.012$).

All participants indicated that they would take action following the workshop. 92% of participants were very likely (and another 8% somewhat likely) to review literature about various programs online (N = 40), 87% of participants were very likely (and another 10% somewhat likely) to review Web Soil Survey for their property (N = 39), 83% of participants were very likely (and another 15% somewhat likely) to contact their county NRCS office (N = 40), 79% of participants were very likely (and another 13% somewhat likely) to implement a conservation practice (N = 39), 75% of participants were very likely (and another 23% somewhat likely) to visit a service center or participate in tours (N = 40), and 73% of participants were very likely (and another 18% somewhat likely) to create a conservation farm plan (N = 40).

All respondents who completed the follow-up survey distributed one to two years following completion of the class indicated that they took some action following the workshop. 88% reviewed literature about various programs available (N = 16), 81% reviewed Web Soil Survey for their property (N = 16), 53% contacted their county NRCS office (N = 15), 69% implemented a conservation practice (N = 16), 38% visited a USDA service center or participated in tours (N = 16), and 64% began or created a conservation farm plan (N = 14). In open-ended survey questions, participants indicated

that they had started the process to implement and install various conservation practices, such as rotational grazing, forest management plan, high tunnel system, pollinator meadow and hedgerows. One participant indicated that they began evaluation for repair and restoration of a pond installed in 1972. Multiple participants indicated that they were enrolled in easements.

Discussion

Overall, the *Cultivating Conservation* curriculum reached 338 participants. The programs successfully achieved the goal of reaching HU farmers, as many of these participants would be classified according to USDA within HU groups. For example, of the workshop attendees, 33% classified themselves within a “Socially Disadvantaged” group of Asian, Black or African American, or Two or More Races, whereas according to the 2022 agriculture census only 3.5% of Maryland and Delaware farmers identify themselves within these groups, while 96% identify as White (USDA NASS, 2024). Participants were overwhelmingly pleased with the program, with 98% indicating that the program was good or excellent. In survey comments, participants stated that they liked the small classes and informal nature of the programs. They appreciated having the time to network and have “one-on-one time.”

In all five areas asked about, participants gained knowledge. The gain in knowledge was significant for knowing what federal, state, and local agencies to contact, using Web Soil Survey, understanding contractual obligations and expectations, and the role of conservation in farm planning. However, the increase in knowledge was not quite significant ($p = 0.052$) for knowing what conservation programs and resources were available, indicating that this is the area that farmers may have been more familiar with prior to taking the training. This is interesting, as it indicates that while farmers may already know what conservation programs and resources are available, they do not know what agencies to contact to access those programs.

All end-of-class survey respondents indicated that they intended to take action, and all follow-up survey respondents indicated that they took action as a result of the program. Many positive comments were received; for example, one participant commented, “This presentation is great to help explain the process and where to begin. The process is overwhelming and to know the agencies a little better and how they work together and how you have to have a plan and how to make one. Thank you. The encouragement alone I gained from today's conversation was help I needed. Thank you.”

Overall the material was very well received by attendees at workshops that offered both the full version of the curriculum and programs that used an abbreviated version. There is a continued need to reach more farmers with this information, through classes and programming as well as through educational resources. Furthermore, conservation practices and programs are very dynamic, and there are continual changes to the programs and processes. Therefore, it is important for University and other partners to continue to modify the curriculum and resources to offer the most up-to-date and accurate information.

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