JOURNAL OF THE NACAA

ISSN 2158-9429

VOLUME 16, ISSUE 2 – DECEMBER, 2023

Editor: Linda Chalker-Scott

Morrow, E.[1], Ogunade, A.[2], and Friend, D.[3]

[1]Extension Agent, WVU Extension, Kearneysville, West Virginia, 25430
[2]Evaluation Specialist, WVU Extension, Morgantown, West Virginia, 26506
[3]Extension Agent, WVU Extension, Sutton, West Virginia, 26601

Exploring Past Attendees' Reflection on The Outcomes of the Women in Agriculture Conference

Abstract

This long-term evaluation report highlights the benefits of the annual West Virginia Women in Agriculture Conference. This extension program provides research-based and practical educational opportunities for agribusiness women while fostering networking and leadership development. The conference focused on the five areas of risk management and production enterprises. Conference participants reported increases in farm profitability, lower production costs, diversification of their farm enterprises, and changes in production practices.

Keywords: Conference, education, women, extension, program, risk management

Introduction

According to the 2017 census, 8,321 farms (35%) in West Virginia were counted as having a woman as a principal operator, and 12,562 farms (53%) across the state were considered to have a woman as one of the operators, either principal or otherwise

(USDA, 2019). There has been a steady increase in the number of female producers in West Virginia with each USDA census, and WVU Extension programming has evolved to serve this demographic of producers. Despite the growing number of female farmers, their annual sales have historically been less than $10,000 (USDA, 2019). The economic viability of West Virginia farms is also vastly different than national statistics. The national average farm income, no matter the gender of the operator, is $43,053 per farm, compared to West Virginia, where it is $5,675 (USDA, 2019).

Research has shown that women play an equal role not only in the managerial tasks of the farm, but also the day-to-day operational tasks (Leckie, 1996; Trauger, 2004). Despite this being the norm, women still face discrimination and lack of trust from their male counterparts when it comes to receiving education on operating a farming enterprise. Specific examples of discrimination for many include not receiving the same education on equipment operation and maintenance as male siblings and being ignored or not taken seriously when in spaces traditionally dominated by men, like livestock auctions, equipment dealerships, or feed stores (Leckie, 1996; Trauger, 2004; Trauger, et al., 2008). As such, women report better learning of agriculture skills through peer-to-peer networking with other women (Barbercheck et al., 2009; Brasier et al., 2009; Trauger et al., 2008), and women in agriculture feel more comfortable asking questions and participating in discussion when around other women (Powell, 2019; Trauger, 2004). Extension systems have met the needs of women in agriculture by developing programs that are based on these specific needs (Rivera, 1990).

Barbercheck et al. (2009) conducted a thorough evaluation of the needs of female farmers in neighboring state of Pennsylvania and put forth many suggestions on the best ways for Extension personnel to increase engagement with female farmers. A few of these suggestions were to design programs specifically for female farmers, provide hands-on and interactive formats at educational programs, invite women farm operators to speak at educational events, and provide opportunities for women farmers to network with each other and service providers. The West Virginia Women in Agriculture Conference has incorporated all recommendations provided by Barbercheck et al. (2009) in its annual conference planning.

The West Virginia Women in Agriculture Conference started in 2014 to help improve the economic viability of farming operations through methods women prefer. Research shows these methods are networking with other female farmers, peer to peer learning, and providing a variety of agriculture-related topics (Barbercheck et al., 2009; Trauger et al., 2008).

Women in Agriculture Conference

Each year, the Women in Agriculture Conference introduces farm financial and operational topics to attendees. The conference planning team consists of predominately female extension agents and extension administrative staff. The conference planning team recognizes the time commitment required to attend an event off the farm, and West Virginia is very diverse in geography agriculture production. Some areas of the state are remote and can require significant travel time to get to the state's few conference centers. Each year, the location rotates to a different area of the state to attract new attendees, feature different farms on the tour stops, and highlight different female producers as presenters. West Virginia's primary agriculture production consists of livestock, poultry, and livestock products (USDA, 2019), but an increasing number of women operated farms are horticulture based (USDA, 2019).

The two-day conference is held in the late fall and starts on Friday afternoon with farm tours. Participants can choose either a horticulture or livestock tour track and will then visit three to four farm operations local to the conference venue, that feature a woman as one of the principal operators. An evening networking dinner rounds out the first day of the conference. On Saturday, a keynote speaker follows breakfast, and attendees choose from four educational sessions within the track topics of horticulture production, livestock production, finance, and the fourth track has changed with each conference. Past topics have been marketing, networking, youth agriculture, and succession planning. Tracks run concurrently, so participants have the option to choose from sixteen total educational sessions. Table 1 outlines the objective of each track and how this evaluation measured the outcomes.

Table 1. Conference tracks, objective, and measurement indicators

Track	Objective	Measurement Indicators
Livestock	Provide educational sessions around ways to diversify livestock operations. Provide educational sessions around research-based livestock production practices.	Number of individuals that added or expanded a livestock operation. Number of individuals that changed their livestock production practices.
Horticulture	Provide educational sessions around ways to diversify their horticulture operations. Provide educational sessions around research-based horticulture production practices.	Number of individuals that added or expanded their horticulture operation. Number of individuals that changed their horticulture production practices.
Finance	Provide educational sessions around financial risk management, including recordkeeping and profitability.	Number of individuals who reported an increase in farm profitability. Reasons individuals have or have not adopted risk management strategies.
Miscellaneous Topic	Provide educational sessions around marketing, networking, or succession planning	Due to this topic changing annually, we did not measure an indicator for this section.

Within the educational sessions, the conference designates a special session that gives other female farmers from around the state the opportunity to share their farm, their production practices, and marketing techniques. This was implemented because women prefer to learn from their peers, as they build trust with other female farmers (Trauger, 2008). Although educational sessions differ with each conference, the central theme of financial risk management education has been present in all conferences.

Having held the conference from 2014-2019, the organizers decided to postpone the 2020 conference due to the emergence of COVID-19. The conference planning team pivoted their efforts towards evaluating the impacts of the conference on previous participants. From 2014 to 2019, the conference has had 954 attendees, averaging 159 attendees at each event.

Methods

At the end of each annual conference, participants fill out a survey that measures immediate outcomes of the conference including customer satisfaction (quality of tours, speakers, and venue, etc.) and knowledge gained from educational content of the sessions. This information guides the annual conference planning. The evaluation described in this article addressed the need to demonstrate participants behavior changes or social, economic, and environmental condition changes of the conference (Lamm, 2013). Documenting how Extension programs are resulting in behavioral change is necessary to demonstrate the public value of funded programs (Franz, 2011). The goal of this outcome survey was to determine if participants have used the information provided to make changes to their own farm operations.

The outcome survey for the West Virginia Women in Agriculture Conference was developed by members of the WVU Extension Women in Agriculture committee. The survey contained demographic questions on location of participants, farm size, age range, educational level, and number of years farming. Other questions were broken down by the risk management topical areas presented in all conferences: finance, marketing, livestock production, and horticulture production. The survey was created in Qualtrics and distributed via email to all past conference attendees in January 2021. A follow up postcard was mailed to addresses on file. After eliminating repeat attendees, incomplete addresses, and undeliverable email addresses, the survey was distributed to a total of 361 individuals, with 93 respondents (25.7% response rate). Participants were offered $5 off the 2021 conference registration fee as an incentive to complete the survey. This program evaluation sought to answer the following questions:

1. Have conference attendees implemented any risk management strategies? If so, what were conference attendees' reasons for doing so? If not, what were the barriers that prevented participants from making changes?
2. Have conference attendees increased the profitability of their farms? What methods were adopted to increase profitability?
3. Have conference attendees diversified their farm enterprises?
4. Have conference attendees changed their production practices?

Results

The results of the survey are presented below. The demographic results are displayed first and compared to state averages according to USDA 2017 Census data to determine if the conference is reaching an accurate representation of female farmers in West Virginia. The Risk Management section presents results around implementation of risk management strategies. The Farm Profitability section presents the methods participants used to increase farm profitability. Lastly, the Farm Diversification section lists what livestock or horticulture-based changes participants implemented on their farms.

Demographics of Participants

The age range of female producers reached by the conference is compared to USDA State Census data in Figures 1-3. A greater proportion of female producers under the age of 45 attend the conference. Figure 2 shows that the greatest percentage of those attending the conference come from a farm size of 50 to 179 acres. Figure 3 shows that more women with 10 or less years of farming experience are attending the conference, compared to the state average. Past research has shown producers with 5 or less years of farming experience feel more comfortable attending educational events specifically designed for women (Barbercheck et al., 2009).

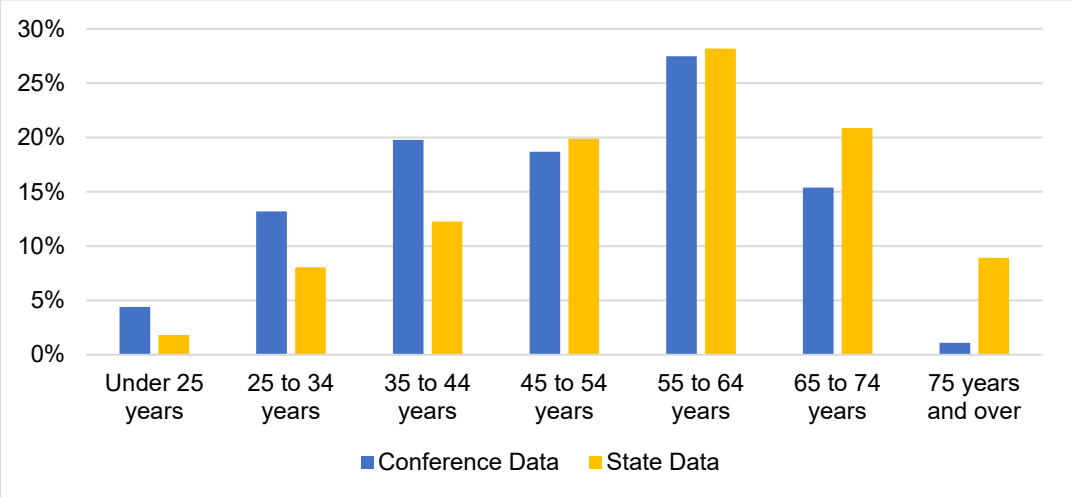

Figure 1. Age range of female producers

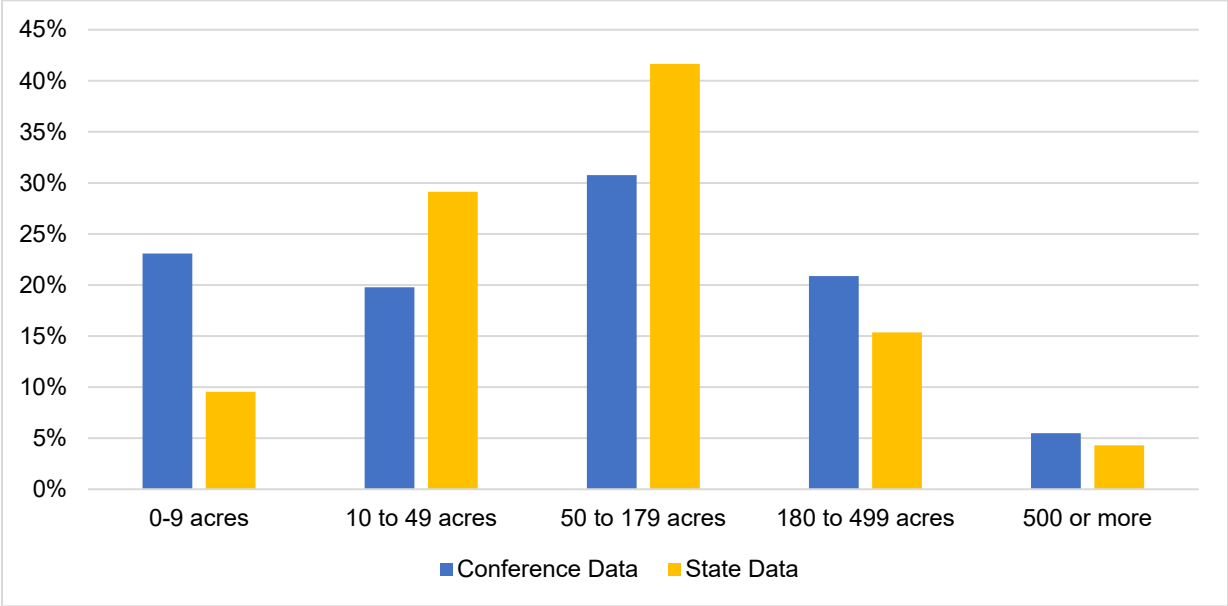

Figure 2. Farm size of female producers

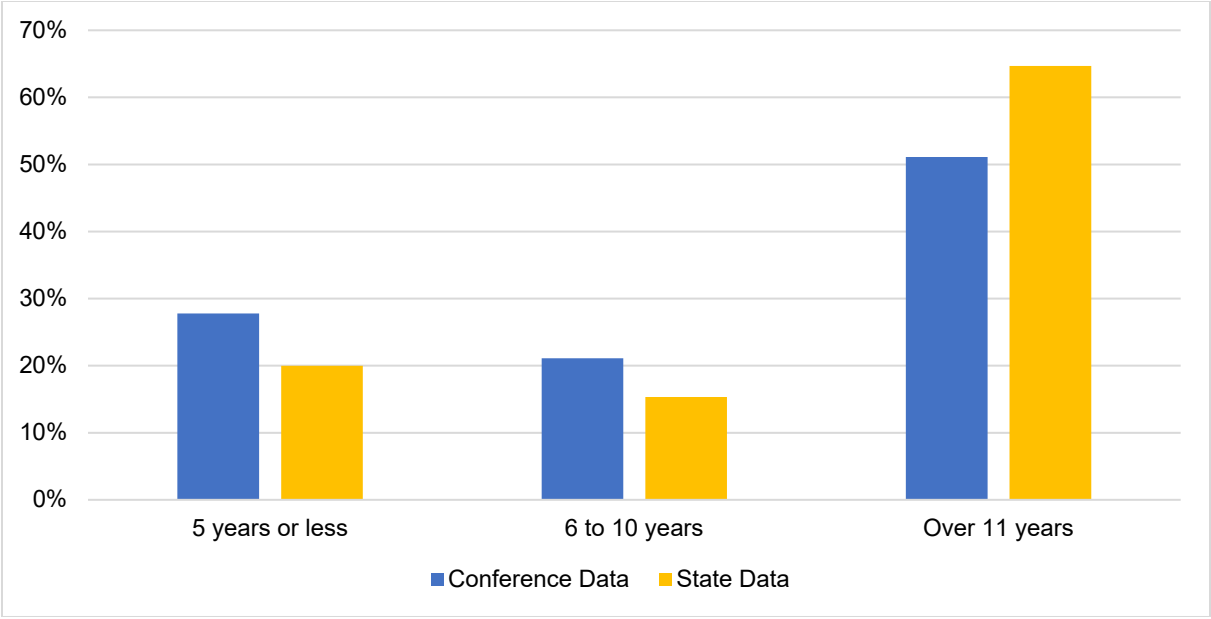

Figure 3. Years of farming experience of female producers

Financial risk management

We asked respondents about the reasons for implementing risk management and allowed for the selection of multiple answers. As such, the frequencies reported in table 2 reflect the number of times each answer was selected. 58% of respondents reported adopting at least one risk management strategy learned at the conference. 73% of respondents selected two or more reasons for implementing risk management strategies.

Table 2. Reasons for Implementing Risk Management Strategies

Reasons	*f*
To reduce production costs	24
To increase farm income	20
To protect farm income	16
To reduce liability	16
To access or create new markets	15
To access better markets	12
To reduce income variability (from year to year or season to season)	7
To make sure I can re-pay loans	5

Barriers to implementing risk management strategies

We also asked respondents to select perceived barriers to implementing risk management strategies in their operations. The primary barrier that respondents selected was having off-farm income to offset farm risks (Table 3). For those that answered “other,” their answers centered around not currently farming.

Table 3. Barriers to implementing risk management strategies

Barriers	*f*
Have off-farm income to offset farm risks	11
Business too small, not worth effort	7
Don’t have many risks	5
Don't owe anything on my farm	4
Too complicated, need more help	3
Don’t have time	0
Other	5

Farm profitability

Of the survey respondents, 76% reported a profit increase, and 52% of respondents reported an increase of 20% or less. When asked how an increase in profitability was achieved, most participants did so by keeping and making better use of farm records and selling to new markets. Other methods reported are highlighted in Table 4.

Table 4. Behaviors adopted to increase profitability

Behaviors	*f*
Keep and make better use of my farm records	30
Sell to new markets	29
Improve marketing strategies	21
Lower my production costs	20
Increase my production levels	20
Better pricing my products (to reflect my costs)	15
Form partnerships with other producers to produce or sell products	13
Improve farm or food safety	12
Sell more to existing markets	11
Reduce animal mortality or post-harvest losses	7
Access assistance or resources from other state agencies	5
Other	2

Enterprise diversification

A major part of the conference is the farm tours. This allows participants to engage in discussion and ask questions among other female attendees, which is a preferred way for women to learn (Brasier et al., 2009). Women don't always feel the need to learn from recognized experts in a traditional classroom setting, and value the opportunity to hear from a wide range of voices, and exchange ideas (Trauger et al., 2008). Forty-six respondents made changes to their operation as a result of visiting the farms featured on the farm tour component of the conference.

Of the 93 survey respondents, 56 respondents diversified their farming operations, with 24 diversifying in more than one area. Those areas are represented in Table 5. The majority of diversification by conference attendees was through expanding horticulture-based operations.

Table 5. Diversification of farming operations

Farming Operations	*f*
Expanded an existing horticulture operation	22
Used season extension production practices	18
Expanded an existing livestock enterprise	17
Value added products	16
Added a new livestock enterprise	8
Other	5

When asked what specific enterprise changes were implemented on their farms, respondents selected those displayed in Table 6. Out of the total respondents, 47 selected more than one livestock-based change and 39 respondents selected more than one horticulture-based change implemented.

Table 6. Changes implemented

Changes Implemented	*f*
Livestock	
Grazing management techniques	27
Parasite management program	12
Forage analysis	10
Vaccination program	9
Predator management program	9
Multi-species grazing system	4
Horticulture	
Planted cover crops	21
Added a niche market or crops	11
Implemented a food safety plan	6
Utilized IPM strategies	5

Discussion

The West Virginia Women in Agriculture Conference was established to provide a formal event for women across the state to network, learn from each other, and receive education in agricultural production and financial risk management topics. It has always been a goal that participants would implement practices learned on their own farm, thereby increasing the economic viability of farming operations in the state of West Virginia.

We do recognize a limitation to this survey is we did not ask how many conferences respondents have attended, to determine if a greater number of changes are implemented by those that attended more conferences. The findings of this evaluation indicated that participants are adopting recommended risk management strategies, improving production practices and reporting an increase in profitability of their operations. Our data also revealed that more than half of survey respondents are reporting implementing risk management strategies. The Women in Agriculture

conference planning committee now has a better understanding of attendees' reasons for implementing risk management strategies, and barriers that have kept attendees from adopting risk management strategies.

Financial risk is a major emphasis of the conference, with one educational area being devoted entirely to finance-related topics. Accurate farm records are vital to evaluate a farm's performance, determine an appropriate pricing point, and make decisions around how to cut costs (Hanson, 1991). Survey respondents reported keeping up-to-date farm records and using them to inform business decisions.

With the horticulture and livestock education tracks being the most widely attended, over half of respondents have diversified their operation, and the majority have made changes to production practices. Educational sessions have centered around adopting season extension production practices and succession planting schedules have proven to be effective for conference attendees. In addition to livestock and horticulture changes implemented, this finding supports the argument that women continue to value peer-to-peer networking within their professional development programs (Powell, 2019). Multiple conferences have held a session within the livestock track on grazing management techniques. Consequently, grazing management practices have been the most widely adopted among survey respondents. The same can be said for cover cropping within the horticulture track.

Conclusions

Due to the diversity of women-run agriculture operations (Trauger, 2004), and agriculture production within West Virginia (USDA, 2019), conference programming will rarely meet the needs of all producers. This evaluation can serve as a model for other states by encouraging Extension institutions to focus the educational content of Women in Agriculture programs on the aspects of enterprise diversification and production practices that conference attendees have reported implementing, summarized below:

- Incorporating farm tours to allow participants to formally learn from other female producers.
- Organize financial education around keeping and using farm records.
- Organize marketing education around finding new markets and improving marketing strategies.
- Organize horticulture education around soil health building practices, such as cover crops.
- Organize livestock education around grazing management techniques.

These recommendations will serve as a starting point for other states that wish to provide focused risk management education for Women in Agriculture.

Acknowledgements

The survey authors recognize the Women in Agriculture Conference Planning Team for their role in organizing conferences and developing this survey.

Literature Cited

Barbercheck, M., K. Brasier, N.E. Kiernan, C. Sachs, A. Trauger, J. Findeis, A. Stone, and L. Moist. 2009. Meeting the Extension needs of women farmers: A perspective from Pennsylvania. *Journal of Extension* 47(3) Article 3FEA8.

Brasier, K., M. Barbercheck, N.E. Kiernan, C. Sachs, A. Schwartzberg, and A. Trauger. 2009 Extension educators' perceptions of the educational needs of women farmers in PA. *Journal of Extension* 47(3) Article 3FEA9.

Franz, N. 2011. Advancing the public value movement: sustaining Extension during tough times. *Journal of Extension,* 49(2), Article v49-2comm2.

Hanson, J.C., D.M. Johnson, and B.V. Lesley. 1991. Developing and improving your farm records. *Maryland Cooperative Extension Fact Sheet 542*. University of Maryland.

Hoppe, R.A., and P. Korb. 2013. *Characteristics of Women Farm Operators and Their Farms, EIB-111*. U.S. Department of Agriculture, Economic Research Service.

Kiernan, N.E., M. Barbercheck, K.J. Brasier, C. Sachs, and A. Terman. 2012. Women farmers: pulling up their own educational boot straps with Extension. *Journal of Extension* 50(5) Article 21.

Lamm, A.J., G.D. Israel, and D. Diehl. 2013. A national perspective on the current evaluation activities in Extension. *Journal of Extension* 51(1) Article 1FEA1.

Leckie, G.J. 1996. `They never trusted me to drive': Farm girls and the gender relations of agricultural information., Gender, Place and Culture: A Journal of Feminist Geography, 3(3): 309.

Powell, M., M. Fery, A. Agenbroad, and M. Guzy. 2019. Personal connections: what women in sustainable agriculture value in their professional development. *Journal of Extension* 57(5) Article 7.

Rivera, W.M., and S.L. Corning. 1990. Empowering women through agricultural Extension: A global perspective. *Journal of Extension* 28 (4) Article 4FEA9.

Trauger, A. 2004. "Because they can do the work": Women farmers in sustainable agriculture. *Gender, Place and Culture* 11: 289-307.

Trauger, A., C. Sachs, M. Barbercheck, K. Brasier, N.E. Kiernan, and J. Findeis. 2008. Agricultural education: gender identity and knowledge exchange. *Journal of Rural Studies* 24(4): 432–439.

USDA National Agricultural Statistics Service. 2019. 2017 Census of Agriculture. Accessed July 12, 2023. https://www.nass.usda.gov/Publications/AgCensus/2017/index.php.