

Pesticide Education for Urban and Small Acreage Users

Final report for MW16-003

Project Type: Enhanced State Grants

Funds awarded in 2016: \$24,288.00

Projected End Date: 05/01/2018

Grant Recipient: University of Wyoming

Region: Western

State: Wyoming

Principal Investigator:

[Dr. Caitlin Youngquist](#)

University of Wyoming

Project Information

Abstract:

While recent evidence shows that pesticide contamination in agricultural areas is decreasing, pesticide contamination of urban wells is increasing. Improper use of pesticides by urban and small acreage users is of particular concern to agricultural professionals, farmers and ranchers in Wyoming. Indiscriminate use of pesticides may foster resistance in weeds which negatively impact crop production in adjacent farmlands. For example, glyphosate resistant kochia was confirmed in July 2015 in Washakie County, Wyoming. The environmental consequences of improper pesticide use by small acreage and urban users may also result in sweeping policy changes and pesticide use restrictions which will negatively impact agricultural producers in Wyoming. Agricultural producers and professionals face a disproportionate amount of the risk and cost for improper use of pesticides by the general public.

No training is required to purchase non-controlled use pesticides. To address this problem we will work with retailers, Weed and Pest Districts, and Conservation Districts in four Wyoming communities located in agricultural production zones. This project will target consumers purchasing non-controlled use pesticides at retail stores in four Wyoming communities. Project tasks will include developing a new web page, collecting existing information and resources on pesticide use, developing a series of fact sheets, educating retail managers and employees, providing educational materials to customers at retail locations, and hosting small acreage workshops.

Extension Educators in Washakie, Goshen, and Park Counties will lead the effort to develop and implement this program in their communities. The fourth community will be determined upon confirmation of funding.

Project Objectives:

1. Develop additional web pages to add to the current UW Pesticide Safety

Education Program (PSEP) website (<http://uwyoextension.org/psep/>) by July 1, 2016. These web pages will have videos and fact sheets about pesticide use on pastures, lawns and gardens that are gathered from existing programs in Wyoming and other states. This website will be mobile-friendly and provide information specifically tailored to small acreage and urban audiences.

2. Design and print posters, banners, flyers, fact sheets and cards for display and distribution at retail stores by July 1, 2016. Materials will also be distributed through local Weed and Pest Districts, Conservation Districts, and Extension offices. All items will include a QR code that links to the new PSEP web pages addressed in objective 1.
3. Develop a series of six one-page fact sheets that are engaging and easy-to-read that provide basic information about pesticide topics (eg. reading labels, selecting the right product, modes of action, exposure, and calibration). The first fact sheet will be published by May 1. Remaining fact sheets will be published during the summer and fall of 2017.
4. Develop a set of resources for Extension Educators to use when working with retailers across the state. This would include: speaking points to use when engaging with store owners/managers, a short presentation and speaking points to use with store employees, a "cheat-sheet" for Educators on common pesticide products and their effectiveness for weed and pest issues found in Wyoming.
5. Host a Train-the-Trainer event for UW Extension educators by February 28, 2017. Extension educators will be provided with the resources to help them provide better information to clientele and work with retailers in their areas.
6. Host a small acreage workshop in Washakie, Goshen, and Park Counties that includes a strong focus on pesticide education topics by March 30, 2017.

Education

Educational approach:

Summary report: Pesticide Education for Urban and Small Acreage Users

Summary

The original grant proposal stated that we were going to print out fact sheets, postcards, posters, banners, etc. to place in retail store locations. As we began to roll out the project and have discussions with people from the University of Wyoming Extension Communications & Technology Department, we developed a new approach to educate customers about safe and appropriate pesticide use.

We purchased Microsoft surface tablets which could be mounted in kiosks and mounted to a shelf or counter. We also provided employee training on pesticide safety and ways that they can help customers make an appropriate and informed pesticide purchase. A website was also created to mimic the kiosks and provide additional resources for people to look to. A series of newspaper and magazine articles helped to spread the word about the program.

Other efforts included a website, general press articles and an in-person workshop on weed management and pesticide safety, along with a webinar on safe pesticide use on small acreages.

Objectives

The objectives of this project were to

1. Help retail employees feel more comfortable answering questions on pesticide selection and use
2. Providing resources in-store for customers to access
3. To build a relationship between retail employees and store managers selling pesticides and their local Extension Office.

Materials/methods

A train-the-trainer was held on February 28, 2017 at the Ace Hardware in Laramie, WY, for Extension Educators in Wyoming who were interested in helping place the kiosks in stores in their area. At the training, our UW Extension Pesticide Safety Education Coordinator, Jeff Edwards, walked us through the aisle of pesticides discussing the products and concerns that should be considered with each. Which are best for what uses, and which are less effective. The kiosk was also introduced and ways to utilize it and introduce it to store managers and retail employees was discussed.

Fifteen Microsoft Surface tablets were purchased in the winter of 2016-17. A program called Articulate Storyline was used to develop the program loaded on the tablets, which would walk customers through information and videos about pesticides and their proper use. Many of these videos already existed as part of another project called "From the Ground Up", a UW Extension video series consisting of 90 second videos on gardening topics.

We have also worked to create many more videos to compliment this effort as part of that series. This provided over 20 videos that were ready to go, and more have been created over last 2 years that will be added to the kiosks in the future.

A website called *Know Your Pesticide* was also developed to coincide with the kiosks, and follows a similar format in the layout and content. This website can be found at <https://wyoextension.org/knowyourpesticides/>. The website also includes links to additional resources including relevant articles, presentations, and online tools.

Education & Outreach Initiatives

Pesticide Education for Urban and Small Acreage Users

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Outcomes and impacts:

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Outputs

- *15 Microsoft Surface Tablets*, mounted in kiosks for mounting on a shelf or countertop.
 - 2017: 5 distributed in 2017. 30 employees trained at retail locations.
 - 2018: 3 currently distributed, 15 employees trained. An additional 10 to be placed yet this summer, with an anticipated additional 45 to 50 employees to be trained.
- *Are you pesticide-averse or an over-avenger? How to use pesticides with care and confidence.* Barnyards and Backyards newspaper insert, March 2017. 43 Wyoming newspapers, over 142,000 copies distributed statewide.
- *Properly assessing the risk of pesticide use in your yard or garden.* Barnyards and Backyards Magazine, Spring 2017. 2,900 copies distributed statewide.
- *Safe Pesticide Use on Your Small Acreage.* October 26, 2016. Webinar, attended by 5 adults. Will also be posted to Know Your Pesticides website at an additional

resource for future viewing.

- *Weed Management Workshop*. September 15, 2016. Cheyenne, WY. 6 attendees.
- *Know Your Pesticide Website*. <https://wyoextension.org/knowyourpesticides/wp-admin/about.php>. 552 views since May 2017. Layout of the website mimics the kiosks, with additional resources listed including articles and online tools.
- *Calibration Worksheet for the 1/128th Method*. Has blank spaces to be used during calibration, and can be laminated for continued reuse.
- A *Know Your Pesticides Retailer Kit* was developed to provide information on the project, the kiosks and their operation, as well as additional relevant Bulletins from UW Extension to help retail employees work with customers that come in with questions. This is all included in a 3-ring binder and provided to the store manager at the time the kiosk is delivered.
- *Know Your Pesticide fact sheet series*: six one-page fact sheets are currently in progress and will come out later this year:
 - Deciphering the pesticide label
 - What are pesticides, and how do I select the right one?
 - A simple method for pesticide sprayer calibration
 - Protecting yourself, your family and the environment from pesticide exposure
 - Proper storage and disposal of pesticides
 - Avoiding herbicide damage on your property

Outcomes

Evaluation results from the workshop

Overall rating of program: *Modified Likert Scale (1=poor to 5=excellent)*

Question	Rating
What overall score	4.7
Did the workshop answer your questions?	4.3
Will you use the information to change what you do on your property?	4.7

Five kiosks were placed in retail stores, selling pesticides, in Torrington, Cody, Casper, Worland, and Thermopolis in 2017. Trainings last approximately an hour, and a total of 28 employees were trained in Torrington, Thermopolis and Worland. No way was provided by the software to track the number of videos watched on the kiosks.

Topics covered included understanding the pesticide label, an overview of products on the shelf in each store, how to help the customer make an appropriate selection based on their problem, and helping customers understand proper personal protective equipment (PPE) and offering it when a customer makes a pesticide purchase.

Store managers were also encouraged store managers to place other items like PPE, application equipment, backflow preventers, and other items important to a safe and appropriate pesticide application in the same aisle as the pesticides so that these items are easier to find and purchase along with the pesticide.

All employees reported learning something new about pesticides in the training and they also learned about their local Extension Office as an additional resource for questions or to send customers to; further strengthening the relationship between local pesticide retailers and Extension resources. Store managers have express interest in having Extension hold pesticide education days in-store for customers as another avenue to reach the general public. This is being explored with store managers for 2018.

In 2018, so far three kiosks have been placed, with an additional 10 to be placed in the next month. The response in 2018 has been much better with many more store managers showing interested in not only the kiosk, but also the training. Interest has also been shown in having UW Extension hold pesticide education days in stores for customers.

Educational & Outreach Activities

- 90** Consultations
- 2** Curricula, factsheets or educational tools
- 1** Journal articles
- 1** Online trainings
- 1** Published press articles, newsletters
- 5** Workshop field days

PARTICIPATION SUMMARY:

- 7** Extension
- 2** NRCS
- 1** Researchers
- 4** Agency
- 25** Farmers/ranchers
- 2500** Others

Learning Outcomes

2500 Participants gained or increased knowledge, skills and/or attitudes about sustainable agriculture topics, practices, strategies, approaches

7 Ag professionals intend to use knowledge, attitudes, skills and/or awareness learned

Project Outcomes

4 New working collaborations

9 Agricultural service provider participants who used knowledge and skills learned through this project (or incorporated project materials) in their educational activities, services, information products and/or tools for farmers

25 Farmers reached through participant's programs

Additional Outcomes:



[pesticide-averse-or-over-avenger.2017](#)

[know.your_.pesticides.retailer.KIT_.2018](#)

[b.and_.b.article.pesticide.safety.20170001](#)

Face of SARE

Face of SARE:

The SARE logo and associated recognition statements were prominently displayed on all educational programming, materials, and marketing outputs produced for this project.

6 Farmers received information about SARE grant programs and information resources

9 Ag professionals received information about SARE grant programs and information resources

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture or SARE.



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This site is maintained by SARE Outreach for the SARE program and is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award No. 2019-38640-29881. SARE Outreach operates under cooperative agreements with the University of Maryland to develop and disseminate information about sustainable agriculture. [USDA is an equal opportunity provider and employer.](#)

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