

4-1-2024

Providing Pest Management Education for Home Gardeners in Utah

Nick Volesky

Utah State University, nick.volesky@usu.edu

Marion Murray

Utah State University, mair.murray@usu.edu

Follow this and additional works at: <https://digitalcommons.usu.edu/oiq>



Part of the [Agricultural Education Commons](#), [Agricultural Science Commons](#), [Agronomy and Crop Sciences Commons](#), [Botany Commons](#), [Entomology Commons](#), [Horticulture Commons](#), [Plant Biology Commons](#), and the [Plant Pathology Commons](#)

Recommended Citation

Volesky, N., & Murray, M. (2024). Providing Pest Management Education for Home Gardeners in Utah. *Outcomes and Impact Quarterly*, 4(1). DOI: <https://doi.org/10.59620/2995-2220.1070>

This Article is brought to you for free and open access by the Extension at DigitalCommons@USU. It has been accepted for inclusion in *Outcomes and Impact Quarterly* by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



Providing Pest Management Education for Home Gardeners in Utah

Nick Volesky, Marion Murray

Abstract

In January 2024, Utah State University (USU) Extension's Integrated Pest Management (IPM) program launched a three-part class series targeting Utah's home gardeners. The goal was to enhance their abilities in identifying and managing insect and plant diseases. With over 200 participants, the series notably increased the knowledge of attendees. This initiative aligns with the USU Extension IPM program's mission to promote sustainable pest management practices across Utah, evidencing its commitment to environmental stewardship and community education.

Introduction & Problem

Home gardeners cultivate vegetables, fruit, or ornamental plants on their own or leased property for various personal (non-profit) reasons. In Utah, home gardening saw a spike in popularity amidst the COVID-19 pandemic and has maintained its popularity through the following years (Fratello et al., 2021; Christensen, 2020). Utah State University (USU) Extension horticulture programming is a reputable avenue that provides evidence-based- and research-based information for gardeners (Utah State University Extension, 2024). Historically, the USU Extension Integrated Pest Management (IPM) program's vegetable pest education outreach has focused on commercial and small-acreage producers. However, commercial control recommendations do not apply to home gardeners (e.g., crop rotation, pesticide selections, etc.).

To better assess home gardeners' needs and current practices, the program surveyed a sample ($n = 61$) of the target audience in January 2024 (Volesky, 2024). The survey found that some of the reasons individuals garden are for stress relief and therapeutic benefits (13%), outdoor and nature connection (12%), and physical activity (13%). Home gardeners also reported that 68.34% cultivate vegetables on less than 100 ft² of land. When asked to rank prioritization of gardening responsibilities, pest control was second behind soil health management and was followed by irrigation, crop cultivar selection, and weeding. Barriers to successful pest management included costs associated with pest control, the time spent scouting and managing, and a lack of knowledge in identifying and managing pests (Volesky, 2024).

Response & Target Audience

In response to the needs reported in the survey, the USU Extension IPM program hosted the Garden Pest Academy in January 2024. The academy is a three-part series of classes targeting Utah home gardeners to advance common insect and plant disease identification and integrated pest management skills. The class was a hybrid for in-person and virtual participants at the USU main campus via Zoom. The class was marketed through the vegetable pest advisory email list (which has more than 14,000 subscribers), "USU Extension – Utah Pests" Facebook page (2,022 followers) and Instagram pages (1,364 followers), and shared with the USU Extension "Utah's Gardening Experts" Facebook group (>22,800 members). Figure 1 displays a promotional flier used to market the academy.

These various channels engage participants of varying gardening skill levels, from advanced gardeners familiar with USU Extension to beginners who are entirely new to gardening and the resources Extension provides. A total of 256 individuals registered for the Garden Pest Academy, with 206 live attendees in the first class, 165 in the second, and 135 in the third. Along with traditional lectures, classes provided interactive game quizzes to review and help retain knowledge. Question and answer sessions with the instructor were also provided at the end of each class. A syllabus containing additional supplemental learning featuring other USU Extension fact sheets and videos was developed for class participants. Recordings of each class session were provided for those who missed them or would like to re-watch them. As of January 31, 2024, these videos have 119, 25, and 20 views, respectively.

Figure 1

Promotional flier used for the Garden Pest Academy



Outcomes & Impact

The objectives of the class were to teach participants how to:

- Apply integrated pest management practices (e.g., cultural, mechanical, and biological) for sustainable gardening.
- Identify, monitor, and manage vegetable diseases caused by fungi, bacteria, or viruses.
- Identify, monitor, and manage insect pests of vegetables.

A retrospective survey was delivered to 61 participants ($n = 61$) after the third class to assess changes in their understanding of integrated pest management. Prior to the academy, few individuals reported a high understanding of general IPM concepts (25%), insect identification

(8%), plant disease identification (7%), insect management (8%), and plant disease management (8%). After the classes, most participants reported a high understanding of general IPM concepts (69%), insect identification (38%), plant disease identification (32%), insect management (45%), and disease management (40%). Figure 2 provides more details of learning objective outcomes. Overall, 90% of participants agreed that the class was informative, engaging, and beneficial to their needs and intended to implement what they have learned in their gardens (See Figures 3 and 4). Testimonials from participants are displayed in Figure 5.

Figure 2
Individual's understanding of Garden Pest Academy objectives before and after participation

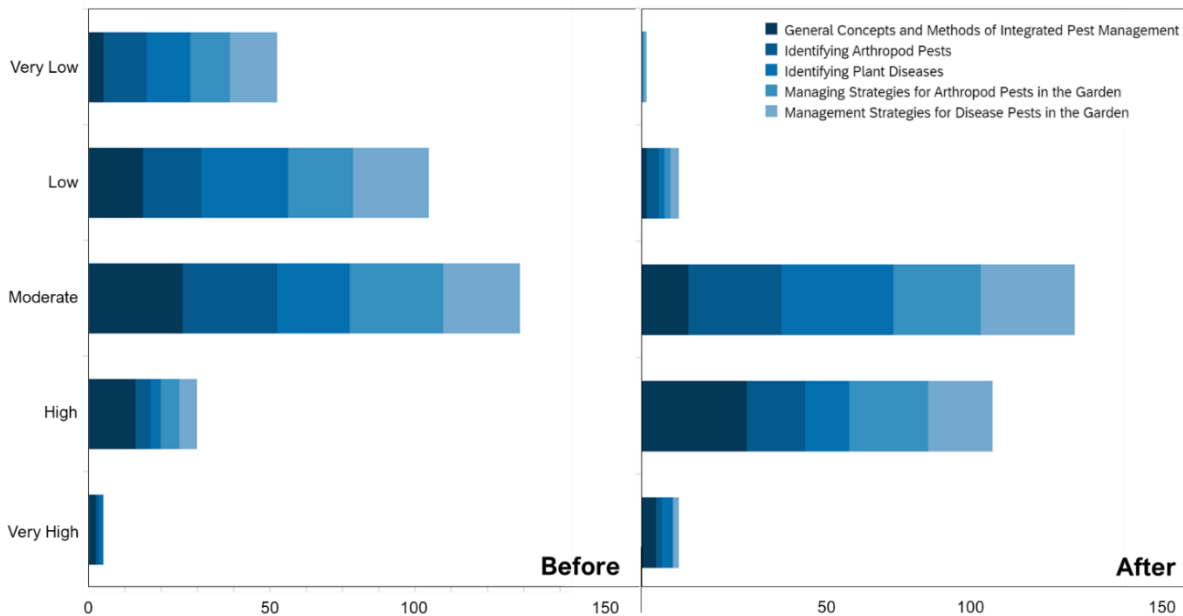


Figure 3
Individuals reporting implementation of cultural pest control practices before and after class.

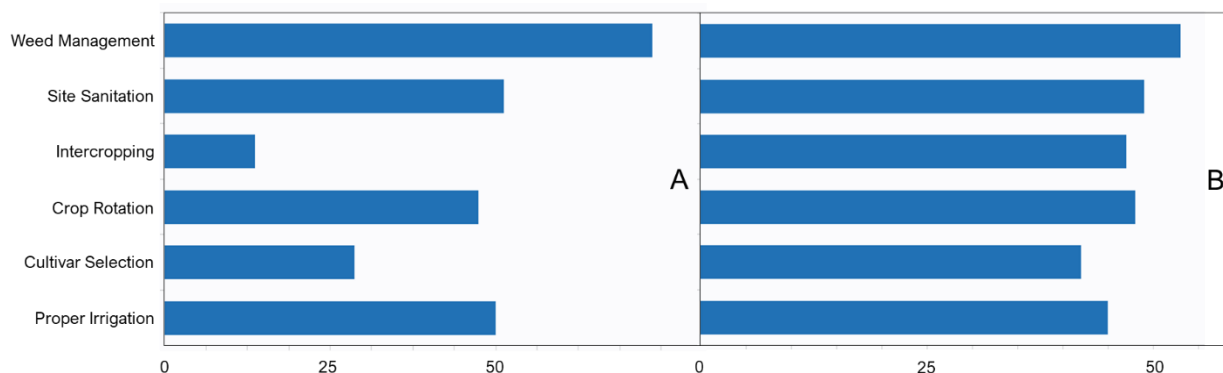


Figure 4

Individuals reporting implementation of mechanical pest control practices before and after class.

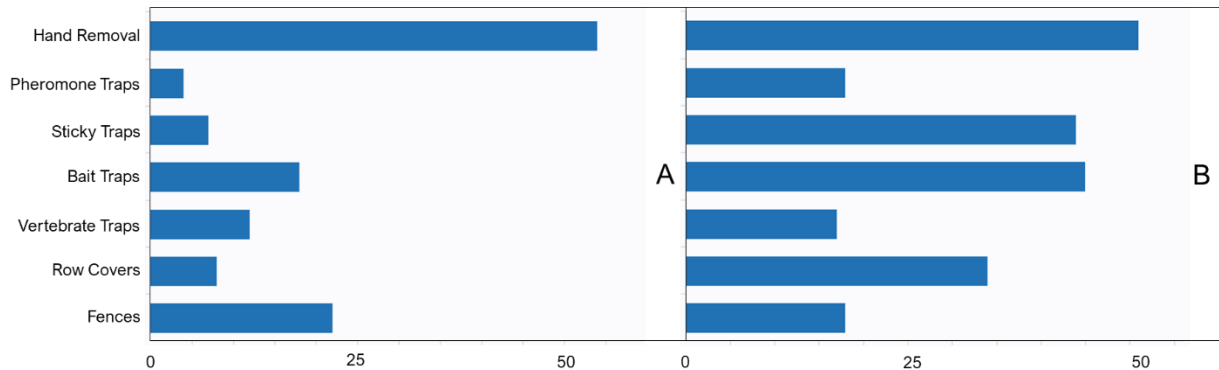


Figure 5

Participant testimonials from the Garden Pest Academy

“Enjoyed the content, visual of problems/pests, knowledgeable information on topic. Appreciate all the resources & videos on syllabus. Great information!”

“I found the information on identifying abiotic vs biotic causes of plant problems especially helpful. The supplemental material was very useful. It filled in gaps in my knowledge.”

“In addition to very informative and engaging, the classes were extremely relevant for small farms and gardeners. The supplemental readings and videos are excellent resources that I will continue refer to.”

“Very informative! The grasshoppers nearly wiped me out last year compared to other years! I will be able to better handle them this coming season! I also hate squash bugs I now have more ways to control them!”

Public Value & Next Steps

Results from the Garden Pest Academy evaluation survey indicate that participants increased their knowledge of vegetable IPM practices and intend to apply what they learned in their home gardens. The class effectively responded to the needs and interests of stakeholders by providing outreach education on IPM best practices for managing insect and disease pests within home gardens. USU Extension plans to continue the IPM program with vegetable pest education and outreach to home gardeners through a new series of garden pest management factsheets, providing identification and management information on common pests applicable to home gardeners. The IPM program will also continue education and outreach through pest advisories, social media accounts, and in-person tours at demonstration farms.

References

- Christensen, A. (2020). USU Extension COVID-19 Update as of 5/1/20 (Morgan County). Utah State University Extension. <https://extension.usu.edu/morgan/files/COVID19-updates-report-MorganCountyFINAL.pdf>
- Fratello, D.S., Campbell, B.L., Secor, WG, & Campbell, J.H. (2021). *Impact of COVID-19 pandemic on gardening in the United States: Postpandemic expectation*. HortScience 32:1 <https://doi.org/10.21273/HORTTECH04911-21>
- Utah State University Extension. (2024). About us. Utah State University Extension. <https://extension.usu.edu/about-us>
- Volesky, N. (2024). [Unpublished raw data of survey of home gardeners]. Utah State University Extension.