

Integrated Weed Management: Reducing herbicide resistance in the Mid-Atlantic

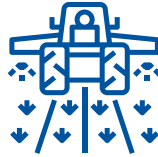


UNIVERSITY OF DELAWARE
COOPERATIVE
EXTENSION

ISSUE



New herbicides are attempting to keep pace with the evolution of herbicide-resistant weeds.



As a result, farmers are having to spray more herbicides more often, changes that **cost more and take longer**.



Worse, this might even be **increasing this trend in herbicide-resistance**.

RESPONSE



In 2020, Cooperative Extension services from the Universities of Maryland, Virginia and Delaware offered the

INTEGRATED WEED MANAGEMENT WORKSHOP



Topics included:

- Integrated weed management
- Herbicides
- Local farmers' perspectives, and
- Creating weed management plans

a two-day virtual training for farmers and ag-businesses.

IMPACT



The program reached

450

participants.



115

responded to the post-event survey.

154

indicated that the workshop increased their knowledge of herbicide-resistant weeds.

127

affirmed they would "be able to improve [their] weed control program in 2021," **five answered "not sure,"** and **22 said the question did not pertain to them.**



Based on survey results, the economic impact of this program was

\$2.9 million

Farmers valued the workshop at \$4.50 per acre. Advisors/consultants valued it at \$3.33 per acre.

ISSUE

Herbicide-resistant weeds were first reported in the mid-Atlantic region in the 1970s. For the next thirty years, new herbicides were discovered and marketed to provide alternative options to farmers and prevent yield loss. However, weeds have continued to evolve resistance to new herbicides and new herbicide mechanisms of action.

As a result, farmers are spraying more herbicides and making additional herbicide applications, changes that increase production cost and management. Furthermore, without incorporating non-chemical tactics for weed management, farmers are at risk for increasing this troubling trend in herbicide-resistance.

RESPONSE

In 2020, the Cooperative Extension services from the University of Maryland, Virginia and the University of Delaware planned and presented the “Integrated Weed Management Workshop,” a two-day virtual training for farmers and ag-businesses. Training topics included:

- What is herbicide resistance?
 - How to select herbicides based on mechanism of action,
 - Integrated weed management for problem weeds,
 - Local farmers’ perspective on herbicide resistance management, and
 - Online exercises for creating a weed management plan.
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IMPACT

Approximately 450 virtual participants attended the workshops, primarily connecting from within the Mid-Atlantic Region with additional connections throughout the United States. Out of this group, 155 individuals responded to the post-event survey. One hundred fifty-four of these participants indicated that the workshop increased their knowledge of herbicide-resistant weeds. One hundred twenty-seven affirmed that they would “be able to improve [their] weed control program in 2021,” while five answered “not sure,” and 22 said the question did not pertain to them because they do not farm or make recommendations.

Accounting for increased yield and reduced input costs, workshop participants who were farmers indicated that they placed this workshop’s value at \$4.50 per acre; the advisor/consultant participants set its value at \$3.33. Based on survey results, the economic impact of this program was \$2.9 million overall.

RECOGNITION

This program was made possible by the Maryland Soybean Board (financial sponsor), USDA Area-Wide Project, USDA NIFA Extension Implementation Program, Delaware Soybean Board, Virginia Soybean Board, Virginia Grain Producers and Maryland Grain Producers.
