

## Impact Statement

### Good Bugs II: Beneficial Insects in the Field & Garden.

#### Public Value Statement

Strengthening our understanding of beneficial insects and their native environments can result in an improved landscape appeal of lands and gardens, prolong the lifetime of essential insecticides, potentially improve crop yields, and increase populations of these Beneficial's to attack pest insect populations.

#### The Situation

For quite some time, landowners, horticulturists, and gardeners have relied on chemical applications to control insect pests in fields & gardens. This continuous and repeated response has led to pockets of insecticide resistance to be observed. This phenomenon has now reached the borders of North Dakota with resistance to soybean aphid in eastern areas of the state as one example. This has led to use of alternative insecticides and continued use of poor spraying habits (i.e. repeated applications of a single mode of action), a reduction in beneficial insects, and further detectable insecticide resistance. Over the past few years, Dr. Janet Knodel has noted grower's complaints of control failure in  $\lambda$ -cyhalothrin and Bifenthrin.

#### Extension Response

In 2018, NDSU Extension and collaborators responded by offering two Good Bug workshops. The hope was to further explain why this phenomenon is happening and alternative ways to combat it. This includes other tools from the IPM toolbox, such as relying on beneficial insects – insects that are likely already present and considered native to the area. Presentations were given on how to assess populations (both pests and Beneficial's) and how to promote beneficial populations by enhancing habitat development at those sites. This included how to assess for proper host plants as well as determining if proper food and water resources are available. Scouting techniques were also demonstrated during these workshops.

#### Impacts

Since the completion of these workshops, some participants have changed how they look to control pests. In Ward County, a grape vineyard owner who used to spray a pesticide every few weeks regardless of the population, now has brought scouting into his program. He scouts both pest and

beneficial insect populations and has reduced the amount of insecticide sprayed in his vineyard. In the Carrington area, a school teacher now uses insect demonstrations with a pollinator garden to discuss the role of beneficial insects and how they can lower insect pest populations.

#### Feedback

*"Instructors were great! I appreciate the combination of PowerPoints and physical visuals ... I can apply to the range classes I'm taking in school."*

*"I liked that there was information on different beneficial insects and plant habitats ... Information I intend to use when planning my garden next year."*

#### Primary Contact

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(Photos: AgWeek)

#### Collaborators

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#### Non-Extension Collaborators

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