



April 2021

Insect and Cover Crop Study

This is a summary of results from a two-year field study of insect populations in cover crops and immediately after planting. Unit educators Ken Johnson and Duane Friend helped initiate the state-wide study with Dr. Nick Seiter (University of Illinois research entomologist) by use of an Extension Collaboration grant. Ken and Duane examined several sites in the unit with cooperating producers.

The following information comes from Dr. Seiter.

Rye cover crops have great potential as a tool for reducing soil erosion and nutrient losses. While insect management is usually not a factor in the decision to use a cover crop, these systems could alter pest management by favoring certain pests. Similarly, beneficial insects could be favored by cover crop systems. Previous studies have demonstrated both of these potential results in other states and production systems.



The overall purpose of our project is to inform pest management recommendations in cover crop systems in Illinois. Our study has three objectives:

- 1) assess the impact of a rye cover crop on pest and beneficial insect populations;
- 2) determine the effect of cereal rye termination timing on early-season pest management in corn; and
- 3) determine the effect of cereal rye termination timing on early-season pest management in soybean.

While there are certain insect pests (including armyworms) that are more abundant in fields that follow a rye cover crop, our results after completing two of three planned years of research indicate that economic damage from insect pests in rye cover fields is infrequent. In several cases, we have observed sub-economic increases (or decreases) in insect damage following a cover crop, but these differences have not been consistent or frequent.

Farmers should consider additional scouting in fields that follow a rye cover crop early in the season, especially for armyworms in corn. However, **the additional risk of insect pest problems resulting from using a rye cover crop appears to be relatively low in Illinois**, especially in soybean. Additional field experiments planned for 2021 will help us to further quantify this level of risk. We will begin participation in a national study evaluating the impacts of rye termination timing on insect, disease, and weed management this spring. In addition, we hope to conduct future research to evaluate cover crop species blends and residue management practices for slug management.

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