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Chickens and Trap Crops: An Integration of Sustainable Approaches to Insect Pest

Project Title: Chickens and Trap Crops: An Integration of Sustainable Approaches to Insect Pest

Coordinator: Gary Wenig

Location: Rayville, Missouri

SARE Grant: \$6,462

Duration: 2013

To read the full project report, go to www.sare.org/projects and search for project number FNC13-938.



Gary Wenig's mobile chicken pen design can accommodate two to four chickens and a trap crop bed. He plants trap crops to attract insect pests away from his vegetable crops. Photo by Gary Wenig.

Squash bugs are major pests affecting cucurbit, squash, and pumpkin growers. For organic or all-natural vegetable producers like Gary Wenig in Rayville, Missouri, controlling the squash bugs on his farm without the use of commercially available pesticides has been a challenge.

Rocky Creek Valley Farm is a 40-acre farm owned and operated by Elizabeth and Gary Wenig. They produce and sell a large variety of heirloom vegetables, free-range eggs, and raw goat's milk.

The Wenigs needed to get a handle on the squash bug problem on their farm, but they didn't want to rely on synthetic chemicals to achieve their goal.

They learned that trap crops, especially blue hubbard squash, could be grown as a control measure to lure pests away from a cash crop. Since the pests are concentrated in high levels in trap crops, they can be treated in a localized area instead of treating the entire field.

In 2013, the Wenigs applied to the NCR-SARE Farmer Rancher Grant Program and were awarded \$6,462 to explore an insect pest control management strategy using a combination of trap crops, beneficial insect crops, and chickens in movable pens.



Wenig built a door for the chickens to have access to a laying nest. Photo by Gary Wenig.

They hoped that the chickens would kill the squash bugs in the trap crop, thus reducing the number of squash bugs in their cash crop without using chemicals. They also wanted to integrate cover crops as a soil management strategy for pest management.

With assistance from Jaime Piñero, assistant professor and state integrated pest management (IPM) specialist at Lincoln University in Jefferson City, Missouri, they constructed two 8x12 ft. mobile pens (sometimes referred to as chicken tractors), which were designed to roll over trap crop plants.

The pens were placed so that the pens enclosed the trap crop plots, and then they placed between two and four chickens in each mobile pen. By confining the chickens in pens with the trap crop plants, they kept the chickens away from the cash crop and avoided damage and contamination issues. To make their pest management program even more effective, the Wenigs incorporated several cover crops to provide other soil and pest management related benefits.

“Bottom line - it was a great success,” said Wenig. “After a number of issues including the weather and a steep learning curve, we saw that chickens, in combination with a blue hubbard squash trap crop, can be used to control squash bugs in a vegetable produce business.”

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