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Maximizing Pollinator Protection and Natural Pest Suppression in Minnesota Fruit and Vegetable Crops

Project Titles: Maximizing Pollinator Protection and Natural Pest Suppression in Minnesota Fruit and Vegetable Crops

Coordinators: Eric Middleton

Location: University of Minnesota, Minnesota

SARE Grants: \$12,000

Duration: 2015-2017

To read the full project reports, go to www.sare.org/projects and search for project number GNC16-229.

Eric Middleton knows that beneficial insects can provide ecosystem services to agriculture, ranging from pollination to pest suppression. As a graduate student at the University of Minnesota, Middleton received a \$12,000 NCR-SARE Graduate Student grant to compare how floral plantings in the margins of conventionally managed potato fields affect pollinator and predator abundance and richness, as well as biological control of Colorado potato beetle.

“By working on large, conventionally managed farms where floral plantings have been established, we can determine how these plantings perform for their intended goals of conservation in a real world setting. Do they actually provide a stable source of resources in agroecosystems that helps conserve species, or might growers be wasting their money?” posited Middleton.

The project is ongoing, but Middleton reported that floral plantings have led to significantly more Colorado potato beetle eggs consumed in the margins of fields (compared to unmanaged fields). However, the pollinator and predator abundance observed in the floral plantings has not dispersed far into adjacent potato fields. In addition to reporting on his current research, Middleton took the time to reflect on how the grant project has influenced his growth as a researcher.

“When I first started working on this project and beginning my research, I was mostly approaching sustainable agriculture from the view of an entomologist. I focused on how insects can provide benefits to growers and how growers could promote said insects...by conducting my research on active farms, I’ve learned just how many factors need to be considered—soil type, pathogens, fertilizer applications, dealing with fungi, concerns about weeds, aesthetics and public perception, even state regulations about moving around roads.”

For more information on Middleton’s NCR-SARE Farmer Rancher grant project, visit the SARE project reporting website. Simply search by the project number, GNC16-229, at www.mysare.sare.org, or contact the NCR-SARE office.

NORTH CENTRAL SARE

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