

Did You Know?

Pairing Plant “Buddies” With Biocontrol in Northern Florida



Sweet alyssum flowering plants intercropped with lettuce in demonstration field plots.

People generally don't go out of their way to attract insects. But on a few small farms outside Tallahassee, FL, that's precisely what some growers are doing—with guidance from ARS and Florida A&M University (FAMU) scientists.

Through the scientists' field demonstrations and technical

presentations, the growers are learning how to pair their crops with “companion plants.” Some of these, like sweet alyssum, a flowering annual, bolster populations of beneficial insects that prey on costly crop pests. Others, like giant red mustard, repel the pests, “pushing” them away from the main crop. Then, there are so-called “trap crops.”

“These are companion crops you can plant next to the main crop to ‘pull,’ or lure, the pest away to where it can be controlled with pesticides, biocontrol agents, or other means,” explains ARS Entomologist **Susie Legaspi**, who codirects FAMU's Center for Biological Control (CBC) in Tallahassee.



Demonstrating releases of spined soldier bugs at Turkey Hill Farm, Tallahassee, FL.

Companion cropping and biocontrol are complementary facets of an integrated pest management (IPM) approach that's become increasingly popular among the Tallahassee region's community of organic growers and sustainable farmers—many of whom market their produce directly to local chefs and farmers' markets, Legaspi says.

Legaspi and her colleagues have been demonstrating the principles of IPM to growers, home and urban gardeners,

students, and other interested parties since 2008. Among such groups is the Red Hills Small Farm Alliance. Some members there have begun using flowering plants like sweet alyssum and buckwheat to bolster hoverfly numbers following their release to biologically control whiteflies and aphids in vulnerable crops like collards, tomato, salad greens, melon, and cantaloupe.

“These companion plants are especially attractive to adult hoverflies, which feed on nectar,” says Legaspi, with the ARS Center for Medical, Agricultural, and Veterinary Entomology in Gainesville, FL. More adults, in turn, mean more larvae, which “are the predators that feed on pests in the main crop,” she adds.

Besides the Red Hills group, Legaspi says they've also begun similar projects involving spined soldier bug releases at Turkey Hill Farm in Tallahassee and Crescent Moon Organic Farm in Sopchoppy, FL. Data resulting from growers' trials of companion cropping will also be used to assess cost-effectiveness and impact on pest populations.

Pest control isn't the only potential gain, though: Companion plants can shelter shade-loving crops from direct sunlight, provide structural support (think beans on corn stalks), suppress weeds, and share nutrients in the form of nitrogen-fixing root bacteria and organic matter.

At the end of the day, it's a buddy system worth encouraging.

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