

Conservation Quarterly

Summer 2018

CLARK COUNTY SOIL AND WATER CONSERVATION DISTRICT



The annual Clark County 4-H Fair will be held July 13-21, and the Clark County SWCD supervisors and staff have been busy making preparations. We would like to invite you to stop by our Natural Resources Conservation Facility (located at the rear of the Fairgrounds), and experience our “Pathway to Water Quality”. Modeled after the original Pathway at the Indiana State Fairgrounds, we have included many of the same educational elements to teach how to protect and preserve our water resources.

Features of our Pathway:

- A landscaped pond, complete with waterfall, creekstone, and native fish.
- A cover crop plot, which illustrates common varieties of cover crops used in this area.
- Signs identifying and explaining each feature of the path.
- An educational area where children of all ages can explore the items contained in our “nature” boxes, and participate in activities.
- Two native perennial plantings that provide food and habitat for butterflies; a third garden is focused on bees and hummingbirds. All three are effective in removing pollutants from water as well.
- A home for bats! Learn how you can have one too.
- A home, actually a subdivision, for bluebirds! Our trail of bluebird boxes is monitored regularly for inhabitants by the Sunnyside Master Gardeners Bluebird Team.
- A newly constructed butterfly house. Come see how many butterflies you can identify!

In addition to our Pathway, we will also have the following guests and events for you to enjoy:

“Fishing Night”, Monday, July 16, 6-9 p.m.—**Conservation Officers** will be on hand to discuss water safety. Information and displays related to fishing and water safety will be available.

“Pollinator Night”, Tuesday, July 17, 6-9 p.m.—**Zach Voyles**, biologist Quails Forever/Pheasants Forever, will have info on habitat for pollinators. **Kentuckiana Beekeepers Association** will be on hand with info on beekeeping.



“Camping Night”, Wednesday, July 18, 7 p.m.—**Silly Safaris** live animal show and meet & greet. Information on all things camping available.

“Flight Night”, Thursday, July 19, 7 p.m.—Take Flight! Wildlife Education, **Raptor program**. **Zach Voyles** will be with us again with info on quails and providing habitat for them.

Giveaways each evening!

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District activities and programs will be made available to all citizens, regardless of race, color, religion, gender, national origin, marital status or disability.

Dates to Note

- 7/4/18—July 4th Holiday, SWCD office closed
- 7/57/18—SWCD Monthly Board Meeting
- 8/2/18—SWCD Monthly Board Meeting
- 9/3/18—Labor Day, SWCD office closed

Insecticides foster 'toxic' slugs, reduce crop yields

Insecticides aimed at controlling early-season crop pests, such as soil-dwelling grubs and maggots, can increase slug populations, thus reducing crop yields, according to researchers at Penn State and the University of South Florida.

"Neonicotinoids are the most widely used insecticides in the world," said Margaret Douglas, graduate student in entomology, Penn State. "Seed applications of neonicotinoids are often viewed as cheap insurance against pest problems, but our results suggest that they can sometimes worsen pest problems and should be used with care."

According to John Tooker, associate professor of entomology, Penn State, recent research links neonicotinoids with negative effects on pollinators and pollution of surface water in agricultural ecosystems, and even with cascading negative effects on aquatic invertebrates and insect-eating birds. However, the effects of these common seed-applied insecticides on soil-dwelling creatures have been little explored.



Slugs were unaffected by neonicotinoid insecticides, likely because they are mollusks and not insects, but they did pass the insecticides to their predators.

"Our research suggests that neonicotinoids can have unintended costs, even within crop production," he said.

The researchers conducted laboratory and field experiments. In the lab, they exposed slugs to three types of soybeans -- untreated soybeans, soy-

beans whose seeds were treated with fungicide, and soybeans treated with fungicide and seed-applied thiamethoxam, a very common neonicotinoid. The team then tracked slug weight and survival. Next, the scientists presented slugs from the treatments to a ground beetle species that eats slugs. They then tracked slug mortality and symptoms of beetle poisoning.

In a separate field experiment, the researchers planted quarter-acre plots with soybean seeds that were either untreated or treated with a neonicotinoid. In the plots, the team tracked crop establishment and growth, slug and predator populations, and predation. The scientists submitted samples from their laboratory and field experiments to an analytical laboratory to measure levels of neonicotinoids in soil, plants, slugs and beetles.

"In our lab work, we found that slugs were unaffected by the fungicides and also unaffected by the neonicotinoid insecticides, likely because they are mollusks and not insects," said Tooker. "But the slugs did transmit the insecticide to the ground beetles, impairing or killing more than 60 percent of the beetles."

In the field, the team found that the neonicotinoid treatments depressed activity of insect predators, thereby relaxing predation of slugs and reducing soybean densities by 19 percent and crop yield by 5 percent.



This image shows a Chlaenius tricolor, a ground beetle species that eats slugs. The researchers found that slugs transmitted the neonicotinoid insecticide to predatory ground beetles, impairing or killing more than 60 percent of the beetles.

"Slugs are among the most challenging pests faced by Mid-Atlantic no-till growers," said Tooker. "Our research reveals that neonicotinoids can indirectly increase slug damage to crops by poisoning insects that eat slugs. As a result, crop yields are lower." According to Tooker, their results also confirm that predatory insects can provide significant control of slugs. "This phenomenon dispels the common belief in the United States that insect predators do not contribute to slug control," he said. "It also emphasizes that if growers care for these predator populations they can help with slug control."

The USDA's Northeast Sustainable Agriculture Research and Extension program, the Pennsylvania Department of Agriculture and the Maryland Grain Producers Utilization Board supported this work. Also working on this project was Jason Rohr, associate professor of integrative biology, University of South Florida. Article by Sara LaJeunesse, Penn State News.

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Incentive Funds Available for Conservation Practices

The Clark and Jefferson County Soil and Water Conservation Districts (SWCDs) were recently awarded a 2018 Clean Water Indiana (CWI) Grant for a project that will strive to promote soil health on pasture/hay land, and improve water quality. Conservation practices will be installed that help to: improve forage and biomass quality; reduce soil erosion and compaction; reduce excessive nutrients and sediments in surface and ground waters; and improve inadequate feed, forage, and water.



Practices producers can implement through the project are as follows: heavy use area protection (HUAP), access road, pipeline, watering tanks, forage and biomass planting, cover crop, roof runoff structure, animal trails and walkways, underground outlet, and permanent interior fence. Additional funds from the SWCD's have been pledged to help implement the practices should there be demand exceeding grant dollars available. Cost-share rate on practices installed is 60% of actual cost; caps on individual practices have been set. Practices must be completed according to Natural Resources Conservation Services (NRCS) specifications. Practices must be completed in the year that the participant's application is approved for funding.

Applications will be taken continually, and evaluated and ranked on a timely, periodic basis throughout the 3-year project life or until all grant monies are expended. Producers in Clark County, please contact the Clark County SWCD office at 812-256-2330, ext. 3, or visit www.clarkswcd.org.

Nominations Open for the 2018 County Committee Elections

The U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) encourages all farmers, ranchers, and FSA program participants to take part in the Clark County Committee election nomination process.

FSA's county committees are a critical component of the day-to-day operations of FSA and allow grassroots input and local administration of federal farm programs.

Committees are comprised of locally elected agricultural producers responsible for the fair and equitable administration of FSA farm programs in their counties. Committee members are accountable to the Secretary of Agriculture. If elected, members become part of a local decision making and farm program delivery process.

A county committee is composed of three elected members from local administrative areas (LAA). Each member serves a three-year term. One-third of the seats on these committees are open for election each year. County committees may have an appointed advisor to further represent the local interests of underserved farmers and ranchers. Underserved producers are beginning, women and other minority farmers and ranchers and land owners and/or operators who have limited resources. Other minority groups including Native American and Alaska Natives; persons under the poverty level, and persons that have disabilities are also considered underserved.

For Clark County, the LAA conducting the election is Jeffersonville, Silver Creek, Union, Carr, and Wood townships.

Eligible candidates are farm owners and/or operators that live in those 5 townships. The nomination period is open now through the date of August 1, 2018. From the list of candidates nominated during this period, the election will be conducted during the month of November and completed ballots must be submitted to the FSA Office by December 3rd. The candidate that is elected in December will serve a 3 year term beginning January 2, 2019.

All nomination forms for the 2018 election must be postmarked or received in the local USDA service center by Aug. 1, 2018. For more information on FSA county committee elections and appointments, refer to the FSA fact sheet: *Eligibility to Vote and Hold Office as a COC Member* available online at: www.fsa.usda.gov/elections, or contact the Clark Co. FSA Office at 812-256-2330.



2018 Crop Certification

If you have completed planting your crops, please call the Clark Co. FSA office to schedule a visit to complete crop certification. All farms participating in the Conservation Reserve (CRP) as well as the 2018 ARCPLC (crop program) are required to report all crops and land uses on the farm by July 15th. All other farms are encouraged to certify their crops to maintain future program eligibility. Please contact the FSA office at 812-256-2330 to schedule an appointment for crop certification.

9608 Highway 62
Charlestown, IN 47111
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CONSERVATION
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Kansas producer discovers 'cheap pounds' for weaning calves

Selecting a cover crop mix is a lot like buying a bull: There are many good options to choose from, but not all of those options fit your environment, your goals and, better yet, your pocketbook. Clint Cox, a cattleman and cash crop producer in north-central Kansas, can attest to the challenging aspects of selecting a cover crop, but what he can also attest to is the benefit he has seen in soil health and overall cow-calf production.

Cover crop mix Clint Cox North-central Kansas

Oats	32 lbs
Cowpea	5 lbs
Sudangrass	3 lbs
Sunflower	3 lbs
Millet	2 lbs
Radish	1 lb
Purple top turnip	.5 lb
Forage collards	.5 lb

Cox and his family have used cover crops following wheat (when the market was good) or rye (in more recent years), which follows corn and soybeans in the fall. The cover crop mix he utilizes for grazing is planted after the rye harvest. Cox says they will harvest the rye with a stripper header and then go in with a mix of sudangrass, cowpea, forage collards, radish, purple-top turnip, oat, sunflower and millet.

Once the cows start calving around the first of March, the pairs are moved to the rye as soon as it "greens up and gets going," Cox says. The pairs will stay on the rye until the first of May, where they are then moved to rented grass until November. "We used to put pairs on the cover crop, but I really prefer to wean my calves

on the cover crop and let my calves go and get the good stuff, and then follow it with the cows," Cox says. "Or, if the fall stays with us long enough, and the calves get everything we want them to eat, we'll just consider the rest of it for the soil biology and will move the cows to stockpiled corn residue after harvest."

Since weaning his calves on this particular cover crop mix, Cox has recorded gains of 2.35 pounds per day. Last year, he weaned 270 calves and grazed them out for 42 days, and only had to unroll \$500 worth of hay due to some snow. He figures it cost him about \$2,400 in cover crop seed and fuel to seed 133 acres.

"These have been cheap pounds to put on during the weaning phase, and the cattle have been healthy," Cox says. "It's been a great opportunity for the cattle, and it's been a positive for when we go to the next cash crop." Cox points out that his cover crop mix might not work for everyone. He says it's really about being opportunistic with what's in your area. "I didn't even think about fall planted oats until, at harvest time, the local elevators were hardly paying anything for oats, and I said, 'Well, let's try them,'" Cox says. "People just need to pay attention to what's available close to them so they can source to keep that cost down."

Adapted from Progressive Forage article, March 2017.