



Field Notes

Kerr Center for Sustainable Agriculture E-Newsletter

E-Field Notes
July 2019

This month David Redhage reviews a new edition of a **comprehensive guide to garden insects**.

We share a new SARE publication that can help you figure out **how to make cover crops pay for themselves as quickly as possible**.

We've also found a set of **infographics that explain several different agroforestry practices**.

While cattle commonly catch the blame for greenhouse gas emissions in agriculture, it turns out that **the fertilizer industry may have been a much bigger methane source all along**.

We strive to cover **the most relevant topics to sustainable agriculture in Oklahoma**. If there's something you'd like to see, please [let us know](#). If you like what we're already doing, please tell us about that as well - with a [donation](#), if possible. [Thank you!](#)

In this issue:

President's Note: Integrated Monarch Monitoring Program

How Quickly Will Cover Crops Pay for Themselves?

Agroforestry Infographics

Grass Beats Gas? Fertilizer Industry Methane Emissions Vastly Underestimated

Rewilding Oklahoma Early Registration Ends July 28

Summer Events: Cedar Control, Conservation, Nutrition Education...

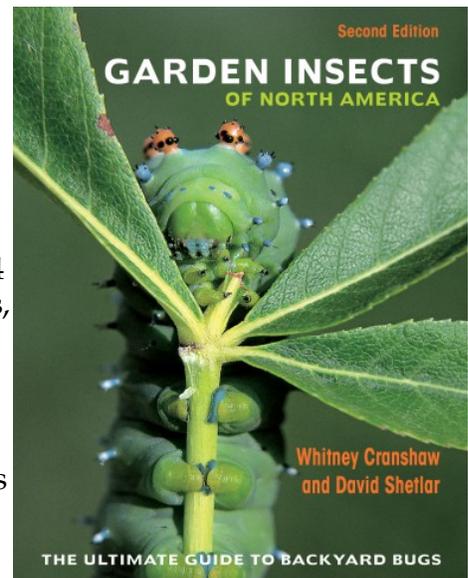
President's Note: Book Review: Garden Insects of North America

Back in 2004, Princeton University Press released a book entitled *Garden Insects of North America*, by Whitney Cranshaw. It was an incredibly comprehensive work. I just found out that an [updated 2nd edition](#) was released in 2018, and lists Whitney Cranshaw and David Shetlar as the authors.

How could it be improved on? It went from 656 pages to 704 pages. The claim is that there are over 33,00 full color photos, more than double the number of illustrations than the first edition. The authors have also expanded the treatment of native pollinators and the natural enemies of garden pests.

The first edition contained quite a bit of white space on pages throughout the book. This is gone in the current edition, I assume due to the better use of pages, and increasing the number of pages allowed for the huge increase in photos.

Realize that this is not a pocket guide for the field. It is a large and heavy book printed on glossy paper, allowing for better reproduction of the photos. The paperback currently sells for as little as \$24.90 online. If you wanted one book to help identify [garden insects](#), this is it.



How Quickly Will Cover Crops Pay for Themselves?

Any new farm expense or investment can be preceded by plenty of head-scratching and pencil work over how long it will take to pay for itself. **A new publication makes those calculations easier for those considering [cover crops](#) - and the news is positive.**

National [SARE](#) has released a new **free technical bulletin**, [Cover Crop Economics: Opportunities to Improve Your Bottom Line in Row Crops](#).

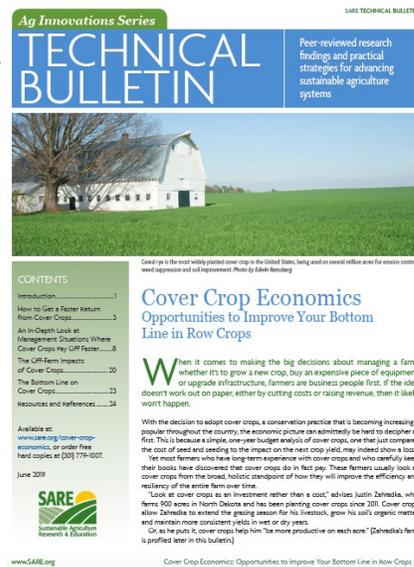
Drawing on data from the National Cover Crop Survey, the 24-page bulletin **summarizes costs of seed and seeding, and cash crop yield increases over time**. A key finding is that **farmers should evaluate the economic returns from cover cropping over several years, as they would for other purchases with long-term payback periods**, like applying lime or buying new farm equipment.

The heart of the bulletin is an **analysis of net returns from cover cropping in corn and soybean production**, at time intervals of one, three, and five years. Then, building from that baseline, the bulletin also gives estimates for **seven different ways in which cover crops can pay for themselves more quickly**, when used:

- to manage herbicide-resistant weeds
- to provide grazing for livestock
- to alleviate soil compaction
- to speed up and ease the transition to no-till
- to mitigate drought effects
- to reduce fertilizer expenses or capture manure nutrients
- to qualify for incentive payments

In many cases, two or more of these situations can overlap, further increasing the net economic benefit to the farmer.

[Continue reading....](#)

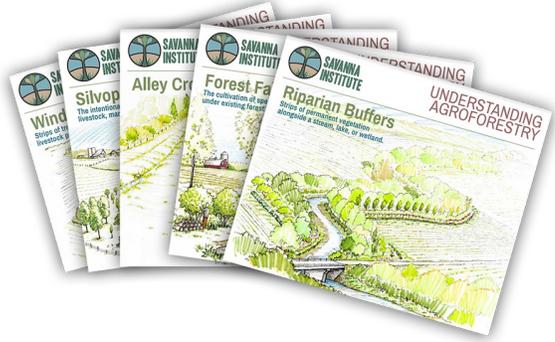


Agroforestry Infographics

The Savanna Institute recently released a new series of **free infographics explaining concepts in [agroforestry](#)**.

The graphics provide descriptions of these **five common agroforestry practices**:

- **Alley Cropping** - the cultivation of crops in the alleys between regularly spaced rows of trees or shrubs
- **Forest Farming** - the cultivation of specialty crops under existing forest canopies
- **Riparian Buffers** - Strips of permanent vegetation alongside a stream, lake, or wetland
- **Silvopasture** - the intentional integration of trees, pasture, and livestock, managed as a single system
- **Windbreaks** - strips of trees and shrubs designed to enhance crop or livestock production while providing conservation benefits



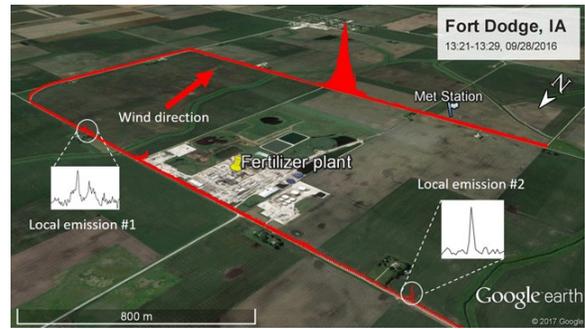
Each infographic consists of an **illustrated two-page PDF** with a summary of the practice's **challenges and benefits**, and a section of **frequently asked questions** about implementation.

The infographics are available free from the [Savanna Institute website](#) (email signup required).

Grass Beats Gas? Fertilizer Industry Methane Emissions Vastly Underestimated

We talked recently about how, in contrast to the bad rap livestock sometimes catch for being greenhouse gas emitters, [cattle on pasture can actually store more carbon in the soil than they release to the air.](#)

Now, to polish the other side of that coin, new research suggests that the synthetic **fertilizer industry may be a much bigger carbon polluter than previously thought.**



Nitrogen fertilizer plants use natural gas as both fuel and feedstock. Natural gas is mostly methane, and methane is a more potent greenhouse gas even than carbon dioxide. (It has over 80 times the heat-trapping potential of CO₂ over a 20-year span, and then breaks down into CO₂ anyway.)

The main source of data on fertilizer-industry methane emissions is information that fertilizer plants themselves report to the EPA. Based on that self-reporting, the industry has long been estimated to release about 200 tons of methane each year.

Recently, though, a team of researchers from Cornell, Colorado State, and other institutions around the country decided to try measuring things a different way. Specifically, they fitted a methane sensor to a car and drove loops around roughly a quarter of the fertilizer plants in the country.

What they found is startling.

Based on the measured concentrations, the researchers estimate that the U.S. synthetic **fertilizer industry is emitting around 2,900 tons of methane each year - [over 100 times more than the EPA figure.](#)**

[Continue reading....](#)

Rewilding Oklahoma Early Registration Discount Ends July 28



The [Rewilding Oklahoma symposium](#) isn't until August 28, but the **registration cost goes up after July 28** (from \$60 to \$70).

Summer Events: Cedar Control, Conservation, Nutrition Education...

Before the month is out, you can learn about **cedar control** (Edmond, July 25) and **conservation** (Tahlequah, July 30). Get August started with a **nutrition education** conference (McAlester, Aug. 2), and/or one on **plant materials** (Stillwater, Aug. 8).

If you feel like getting out of the state, the **annual meetings** of the **Soil & Water Conservation Society** (PA, July 28-31), the **National Association of Conservation Districts** (NM, Aug. 2-6), and the **Organization for Competitive Markets** (MO, Aug. 8-10) offer opportunities.

Full details on these and many other upcoming sustainable agriculture events around the state and region can be found on the Kerr Center's online [events calendar](#).

The calendar also serves as a reminder for the dates of **monthly Kerr Center tours**, which run all year round, every second Tuesday by appointment.

Don't forget that you can also use our online calendar to **keep yourself and your friends up to date** on these and other upcoming events, including our tours:

- **Subscribe to our feed** and receive **updates to your personal calendar** (Outlook, Google+, etc.) as they are made.
- **Share events on the calendar** via a number of **different social media sites**, including Facebook, Twitter, and Pinterest.

The screenshot displays an online events calendar with the following entries:

- JUL 25 Thu:** Cedar Control and Grasses @ Edmond (3-R Farms) | Jul 25 @ 6:00 pm – 8:00 pm
- JUL 28 Sun:** Soil & Water Conservation Society Annual Meeting @ Pittsburgh, PA (Wyndham Grand Pittsburgh Downtown) | Jul 28 all-day | Includes a 'Tickets' button.
- JUL 30 Tue:** Conservation Workshop and Lunch @ Tahlequah (Cherokee Nation Community Ballroom) | Jul 30 @ 10:00 am
- JUL 30:** Deadline: Conservation Innovation Grants (USDA-NRCS) | Jul 30 @ 4:00 pm – 4:00 pm
- AUG 2 Fri:** National Association of Conservation Districts Summer Conservation Forum & Tour @ Santa Fe, NM (Drury Plaza Hotel) | Aug 2 – Aug 6 all-day | Includes a 'Tickets' button.
- AUG 2:** Annual Gather and Grow Nutrition Education Conference @ McAlester (McAlester Expo) | Aug 2 @ 8:00 am – 3:00 pm
- AUG 8 Thu:** OCM Food & Agriculture Conference @ Kansas City, MO (Marriott Kansas City Airport) | Aug 8 – Aug 10 all-day | Includes a 'Tickets' button.
- AUG 8:** Conference: Plant Materials @ Stillwater (OSU Wes Watkins Center) | Aug 8 @ 8:30 am – 5:00 pm | Includes a 'Tickets' button.

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Contact Information

The Kerr Center for Sustainable Agriculture
24456 Kerr Road
Poteau, OK 74953
Phone: 918.647.9123
Fax: 918.647.8712
mailbox@kerrcenter.com

