Science Societies

Highlights from the 2021 sustainable agronomy conference

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Fred Vocasek, Steve Walthour, Shannon Kenyon, and Mark Rude describe how producers can boost water quality through sound agronomy (from Managing Scarce Water Resources–Part 1).

This year's ASA Sustainable Agronomy Conference (SAC) spanned six weeks of virtual sessions, with more than 3,000 registered attendees from 82 different countries. But don't worry if you weren't able to catch it live—you can still register, view recordings, and earn CEUs!

This was the SAC's second year in virtual format (and fourth year overall), and the program certainly delivered. Nearly 40 speakers and moderators presented the latest in agronomic research and technology, and program sponsor the Conservation Technology Information Center (CTIC) took us on virtual field tours to farms across America.

Let's roll the highlight reel for a pair of standout sessions in this year's program plus an overview of the virtual tours presented by CTIC. We'll chat with moderators Steve Werblow of CTIC and Brian Olson of Bayer Crop Science, as well as presenter Jamie Ridgely of Truterra, LLC.

Carbon Markets

Carbon markets are a hot topic. Incentivizing soil carbon sequestration through carbon markets is in the public eye, and SAC gives a fantastic overview of how agronomists can help producers navigate emerging marketplaces as well as the science behind sequestering soil carbon.

Watch the Recorded Presentations and Earn CEUs

If you didn't catch the conference, don't fret. You can find the recorded presentations here: **www.agronomy.org/education/classroom**.

And you can earn up to 12 CEUs (2.0 per session!)

- Navigating Carbon Markets
  - 1.0 in Soil & Water Management, 1.0 in Crop Management
  - or 2.0 in Sustainability
- Measuring and Improving Soil Health
  - 2.0 in Soil & Water Management
  - or 2.0 in Sustainability
- Utilizing 4R Nutrient Management Practices
  - 2.0 in Nutrient Management
  - or 2.0 in Sustainability
- Managing Scarce Water Resources
  - 1.0 in Soil & Water Management, 1.0 in Crop Management
  - or 2.0 in Sustainability
- Protecting Pollinators and Managing Their Habitats
  - 2.0 in Integrated Pest Management
  - or 2.0 in Sustainability
- Growing a Regenerative Crop Production System
  - 1.0 in Crop Management, 1.0 in Professional Development
  - or 2.0 in Sustainability

Jamie Ridgely, the Carbon Operations Lead at Truterra, LLC, discussed in detail how carbon markets can help growers improve their soil health. At Truterra—which is a Land O'Lakes company—scientists like Ridgely are scaling up a carbon program that meets the needs of both growers and potential buyers in the marketplace.

“[Certified Crop Advisers] are really critical if we want to get these markets off the ground,” Ridgely says. “We want to make sure that we’re bringing these dollars into conservation and agriculture.”

Of course, revenue from carbon markets isn’t intended to tremendously augment a farmer’s bottom line. Instead, the untapped potential of carbon markets lies in creating sustainable, scalable change.

“We want to help agronomists have conversations with their growers about sustainability, and carbon markets give us a great opportunity to start those conversations,” Ridgely says.

The session on carbon markets—as well as its invaluable question-and-answer period—is the perfect overview (or refresher course) for the curious agronomist. Leaders in the field give updates on the burgeoning field, which you can still find online.

Water Conservation

Moving from carbon to water, let’s talk about the Ogallala. The Ogallala Aquifer spans 175,000 mi^2 and eight states with its deepest point in the northwestern corner of Nebraska. The aquifer provides irrigation water for 30% of all U.S. crop and livestock production, but the **USDA estimates** that, at our current rate of consumption, we’ll have pumped the Ogallala Aquifer dry by the end of the century with a mere 6,000-

year wait for it to recharge.

Brian Olson, the Learning Center Manager for Bayer, frequently works with agronomists in Nebraska navigate the “push–pull” relationship between water use and conservation.

“We’ve managed to develop some really great methods for being more efficient with our water over the years,” Olson says. “And the big one is trapping the moisture we already have out there in the field. Incorporating high-residue systems, taking into account temperature, and understanding the crop growth cycle all play into that.”

Plus, Olson details how water conservation can help minimize our carbon footprint in an unlikely way.

“You don’t really think about it, but pumping water from the aquifer takes a lot of energy. If we can be more efficient with our water usage, and cut back the electricity we draw, we’re going to decrease our energy consumption,” Olson says. For many farmers in Nebraska and the Midwest, energy comes from sources as diverse as hydroelectric to diesel.

Of course, farmers under water restrictions have likely given water conservation a lot of thought—connecting energy efficiency and conservation could be the push farmers need to conserve water and carbon at once.

“It’s really about being realistic and understanding where your energy comes from,” Olson says. “If you’re sitting on the fence about improving your water efficiency, maybe this extra layer of carbon conservation is the push that will get you to move forward.”

Field Tours with CTIC

The CTIC partnered with ASA to turn its 14th annual conservation tours virtual. Together, SAC participants took four different “tour stops,” bringing the field to you. The operations chosen by CTIC across the country exemplified sustainable practices covered in the session.

The Conservation Technology Information Center (CTIC) takes us on a virtual tour, including honey production on 600 acres of blueberry (from Protecting Pollinators and Managing their Habitats–Part 2).

“We’re taking advantage of the virtual nature of this conference to pull in people with a broad geographic reach,” says tour guide and moderator Steve Werblow. “We can bring the whole country to [SAC] participants.”

Werblow and the CTIC team travelled across the country, interviewing agronomists, producers, and scientists on a range of conservation topics.

First off, the tour tackled carbon markets, visiting the Clemens Carbon Farm in Indiana. The Clemens family converted their 50 acres into a “carbon farm” by growing trees,

planting prairie, and re-establishing wetlands. Their land exemplifies how alternative uses of land can contribute—even if it means taking it out of production.

Then we travelled to the Western Lake Erie Basin where phosphorus loss from agricultural fields is driving harmful algal blooms. The tour discussed how producers can make changes to better prevent P loss through field-by-field analysis of changes and prescriptions to match. It only takes a little bit of phosphorus to cause big problems, but with careful viewing of this session, CCAs can help producers make changes and prevent dissolved phosphorus loss in the watershed.

Then the tour turned to Iowa where farmers like Dick Sloan are designating unproductive farmland for pollinator habitats. Sloan converted a corner of his farm to prairie, with wildflowers, grasses, and more than 29 species of beneficial insects that contribute positively to his corn and bean crops.

“Even though bees don’t play an intrinsic role in pollinating commodities like corn and soybean, you can look to the greater value, the benefits you get from increasing your biodiversity on farm,” Werblow, says. “You sequester carbon, keep nutrients on your ground—not in the ditch—and create habitats and soil tilth.”

In a final tour stop, CTIC talked with several social scientists to understand how communication shapes change, creating regenerative agriculture opportunities for farmers and stakeholders. The video provides a quick, clear foundation for effective communication to create regenerative agriculture practices, from the perspective of both farmers, conservationists, and communication experts.

To close out the final session of the conference, Werblow rounded up a host of speakers from the final tour stop and picked their brains about conservation communication. The panelists, in a fantastic conversation, detailed how CCAs can help

information flow from scientists to growers. Communication is the final, critical step in turning research into concrete conservation and sustainable farming.

The CTIC tour stops are available for viewing through the session recordings, or on CTIC's website: **www.ctic.org/CIA_Tour/Digital_Library**.

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