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**Conservation
Cropping Systems
Initiative**

2015 Report



The Evolution of CCSI

CCSI had its origins in 2002 with the Conservation Tillage Initiative (CTI) and promotion of no-till across the state. It was a good beginning. In 2009, through strategic planning and securing funding, the CTI was expanded – and in recognition of a need to promote a systems approach to soil health, it was re-branded the Conservation Cropping Systems Initiative (CCSI). At that time, a concentrated effort began to educate conservation agency staff and farmers on soil health practices and systems. In 2012, CCSI moved into its' next level of growth – the development of regional infrastructure to allow expansion... as well as more refined and targeted outreach on a local scale. In 2015, led by the Marion County SWCD, with additional funding from NRCS, a pilot project focused on Urban Soil Health was launched.

Delivering Education for Local Needs

In each of the four CCSI regions that were created in the 2012 expansion, teams comprised of members of the partner organizations identify needs and organize training, field days, and mentoring for farmers, landowners, ag professionals, and Indiana Conservation Partnership (ICP) staff. The regional system allows each area of the state to target their specific resources concerns and context. For example, in the northeast of Indiana, workshops have addressed nutrient loading and the Western Lake Erie algal blooms. In southwestern Indiana, CCSI has been a partner in field days covering the potential of cover crops to regenerate soil health on highly-disturbed reclaimed mine land. **Since 2009, CCSI has helped to organize more than 325 soil health and conservation cropping systems field days and workshops reaching over 16,000 people.**

Staff and Ag Professional Training

Building on staff training, including the 3-Day Soil Health Training and training provided by groups like the NRCS Soil Health Teams, CCSI and SARE began offering a series of

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- Larry and Bill Huffmeyer
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- Rodney, Ken, and Roy Rulon
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- Kurt Stahl
- Don Villwock
- Roger Wenning
- Mike Werling

CCSI Regional Hub Teams

CCSI Oversight Committee

CCSI Technical Advisory Committee

treatment measurements, the CCSI research team is busy analyzing well over 6,000 in-field measurements along with inputs, yield, and weather – a draft CIG report will be presented in a February 2016 Annual meeting, followed by its official publication later in the year. Understanding that 2 years of treatment do not tell a full story, CCSI is working to continue research and work with other partners/projects to add conventionally-farmed sites to the ongoing studies. Information about the study and measurements may be found online at <http://ccsin.iaswcd.org/soil-health-hubs/science-based-conservation/>.

CCSI has also worked with Dr. Wally Tyner and grad-student Myriam Bounaffaa (Purdue University) to quantify economic impacts of soil health practices, specifically cover crops. With over 300 data points, there was too much variability in the dataset to develop statistically valid conclusions. However, the study has provided information to develop new models – the new research is on-going. To provide some form of information on economic returns of soil health systems, CCSI worked with Dr. Tyner, CTIC, NRCS, and a contributing editor of John Deere's Furrow magazine to develop mini-case studies linking indicators of soil health to financial information. The first two case studies were deployed in December 2015 and in partnership with the Soil Health Partnership and CTIC, they were distributed at the Ag Retailers Association Trade Show in California. Those studies are available for download and reprinting online <http://ccsin.iaswcd.org/economics-of-soil-health/>.

CCSI – The Next Steps

Strategically planned growth is key to CCSI's sustainability. In 2016, a Technical Advisory Committee (comprised of farmers, agronomists, researchers and other ag professionals) will complement an existing Oversight Committee (comprised of representatives of IASWCD, NRCS, ISDA, the SSCB, Corn and Soy, and CTIC) in providing direction for the Initiative. Also in 2016, in partnership with Indiana NRCS and the State Soil Conservation Board, the IASWCD will begin the search for a full-time CCSI Director and a full-time Public Relations/Communication position.



trainings to improve their soil health knowledge base. CCSI has provided connections for staff and boards seeking soil health information and statistics. For partners seeking to secure speakers, CCSI is formalizing a Speakers Bureau – a way of finding the right farmer, researcher, or ag professional for a specific event. And launched in 2015 – “Meeting in a Box” is a means to provide suggested presentations and handouts specific to a topic, such as cover crops on prevented plant acres. Coming in 2016 – guidance on networking through ag retailers to reach new audiences and provide a way to strengthen SWCD and Extension partnerships with local ag businesses.

A Model to Build Upon

It is well worth noting that CCSI’s impacts on soil health reaches far beyond the Indiana border. One of the goals of the CCSI Conservation Innovation Grant was to be a model of soil health outreach, education, and research that could be adapted by other organizations. That goal has been attained: over the past 2 years, CCSI staff have helped organizations from other states and provinces - including Illinois, Wisconsin, New York, California, and Ontario - to understand and adapt the CCSI model to their purposes.

Soil Health Research

Starting in 2013, 17 sites have been at the core of CCSI research: 12 on-farm sites <http://ccsin.iaswcd.org/soil-health-hubs/ccsis-twelve-hub-farmers/>, 3 Purdue Ag Centers, and two SWCD-managed sites: the Wabash Farm, managed by the Wabash SWCD and the Vincennes University Jasper Campus Land Stewardship Initiative farmland, managed by the Dubois SWCD. Most sites compare no-till only to no-till and cover crops. In addition to the CCSI CIG research projects, these 17 sites have been included in a Soil Health Nutrient Tool (Haney Test) validation project. With one year of baseline measurements and two years of

Coming Up in 2016

- Vo-Ag Outreach – Deployment of Materials for High School Instructors
- Outreach through Ag Retailers
- “Meetings in a Box”
- Feb-March – A series of Manure Workshops
- April – Core Cover Crops for conservation staff and agronomists
- August - Equipment Training for Staff
- Cover Crops Masters Class for select farmers with a number of years in a 100% NoTill and Cover Crop system
- Continue assisting with Dr. Tyner’s economic research

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workshops for conservation partnership staff and agronomists, including Advanced Cover Crops and Advanced Conservation Cropping Systems workshops. These events continue to provide a platform to insure that Indiana conservation staff and agronomists are equipped with consistent and correct information related to soil health – information that staff now uses as part of their toolbox to assist farmers and landowners with conservation practices. **Since 2012, over 650 staff and agronomists attended these workshops.**



Indiana: A Leader in Soil Health

CCSI had been held up as an example of how consistent, correct messaging of soil health systems, partnering across agencies and geographic borders, and providing technical assistance can make great differences in the voluntary adoption of soil health practices such as no-till and cover crops. In 2014, the National Association of Conservation Districts elected to hold its summer meeting outside of Washington DC for the 1st time in years. According to Earl Garber, then president of the NACD:

“The state of Indiana has been on the forefront and cutting edge of this soil health effort with cover crops being kind of the main focus to get it going. Many other things are being developed to go along with it to improve soils, to make them stronger and more productive and reduce the loss of nutrients in soil itself into the water streams of America. So it’s exciting to be going to where all of the technology has been developed for this and we hope we can showcase it.”

In addition to Indiana’s hosting of the NACD summer meeting, CCSI was recognized with the Soil and Water Conservation Society Merit Award in 2014 “in recognition of an outstanding activity, product, or service by a group, business firm, corporation, or organization that promotes the conservation of soil, water, and related natural resources.” And in January 2016, CCSI received the National No-Till Innovator Award as an organization that has “identified ways to no-till more effectively, more economically, and with lesser impact on the environment.”

A True Partnership

Multiple agencies and individuals have partnered on CCSI, including the Indiana Conservation Partnership (Indiana Association of Soil and Water Conservation Districts (IASWCD); the 92 Soil and Water Conservation Districts of Indiana (SWCDs); Natural Resource Conservation Services (NRCS); Indiana State Department of Agriculture (ISDA); State Soil Conservation Board (SSCB); Purdue University Cooperative Extension Service; Indiana Department of Environmental Management (IDEM); Farm Services Agency (FSA); and the Indiana Department of Natural Resources (IDNR)); the Dubois, Wabash, and Marion County SWCDs; Vincennes University Jasper Campus, the Indiana Corn Marketing Council and Indiana Soybean Alliance, the Conservation Technology Information Center (CTIC), local industry, researchers, and individual farmers. The diversity of the partner organizations allows CCSI to reach wide audiences and conduct statewide research and evaluation of outcomes. CCSI is a true partnership from the State Leadership Team to grass roots field staff – these agencies and organizations are playing to each other's strengths with the common mantra of "it's about getting the conservation on the ground".

Impacts on the Ground

The combination of farmer-to-farmer outreach, field days, education events, and technical assistance has had impact. For example, the Indiana Conservation Partnership notes a swift uptick in cover crop acres following the 2009 CCSI expansion. Cover crop acres reported by USDA NRCS in Indiana in 2010 were 40,000 acres. By 2013 the acreage grew to 154,590 acres, based on applications to NRCS' established programs. However, the state tillage transect performed by the ICP showed that in 2013 a staggering 441,100 acres of cover crops were planted - three times the amount measured by NRCS programs. These farmers incorporated cover crops voluntarily into their management systems outside of government programs.

2015 Facts

- About 50 field days/workshops reached over 1,800 people
- Nearly 40 field days/workshops reached over 900 "new audience" that hadn't attended an CCSI event previously
- More than 230 ICP staff and private providers (i.e. CCA's) received high level technical training
- Conducted replicated strip trials on 17 sites totaling 148 strips
- Over 2,200 aggregated samples pulled (approx. 26,000 individual cores) by volunteer field staff, farmers, and agronomists
- Development and deployment of the first 2 Economic Case Studies
- Significant public outreach through website, Facebook, and Twitter
- Regular web hits coming from: Canada, France, Ireland, Italy, Australia, New Zealand and South Africa
- Significant media coverage through various state outlets (i.e. Indiana Prairie Farmer, AgriNews, Brownfield Ag Network)

The most recent tillage transect showed **933,000 acres of cover crops seeded in the fall of 2014**. See more details here: <http://www.in.gov/isda/2383.htm>

Educating the Next Generation of Farmers and Ag Professionals

2016 will mark the third year that CCSI Farmers Mike and Susan Brocksmith will host Student Soil Health events. A morning of hands-on activities supervised by the SW Soil Health Team allow students to explore basic concepts of soil health impacts and practices, and in the end lowering obstacles to adoption of those practices. And in response to suggestions and input from conservation partnership field staff, CCSI partners Natalie Carroll (Purdue Youth Development and Ag Education) and Roy Ballard (Indiana SARE coordinator) have taken a lead in organizing and developing curricula, lesson plans, and hands-on activities related to soil health. Initial deployment of their web page will occur in 2016.



Adaptive Growth

The combination of strategic growth, partnership, and training (including presentation and media skills) has provided stability through recent changes. When coordinators Hans Kok and Dan Towery moved on from CCSI to other ventures, including the CCSI-modeled Soil Health Partnership, regional CCSI teams were prepared to adapt and even become more precise with education efforts to specific farmer-groups. And as Barry Fisher transitioned from Indiana NRCS State Soil Health Specialist to the Central Team Leader of the NRCS National Soil Health Division in the summer of 2015, local staff, farmers, and agronomists were prepared to step in to deliver core soil health messaging at workshops and field days.



A Resource for Districts and other Partners

As a collaborative partnership, CCSI is designed to be a resource for SWCDs and other conservation partners. With 92 Districts, those resource needs vary greatly. Partnerships with the Indiana SARE program provide financial support for staff to attend workshops and