

No-till Oklahoma Conference 2010



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No-till Oklahoma Conference 2010



*February 8th and 9th, 2010
National Center for Employee Development
2801 State Highway 9 East
Norman, OK 73071-1104*



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No-till Conference 2010 Agenda

February 8, 2010

- 8:00 Registration and Check-in
- 9:15 Welcome
History of No-till in Oklahoma — Jim Stiegler
- 10:00 Developing a Plan for Problematic Weeds/*Chad Godsey*
Marestail Control — Joe Armstrong
Pigweed Control — Doug Shoup
Developing a Weed Management Program — Matt Gard
Sprayer Calibration and Selection — Scott Bretthauer
- 12:00 Lunch
- 1:00 Economics/*Chad Godsey*
No-till/Rotation Economics — Kevin Dhuyvetter
No-till Economics in Oklahoma on the Farm — Alan Mindemann
Crop Rotation Economics — What drives decisions? — Preston Simic
- 2:30 Break
- 3:00 Breakout Sessions
- Room 1 Crop Rotation and other considerations/*Larry Wright*
Crop Rotation Effects on Soil Properties — Silvano Abreu
Herbicide Resistant Weeds in Oklahoma — Joe Armstrong
NRCS Program Overview — Richard Zetterberg
- Room 2 Forage Based Crop Rotations/*Roger Gribble*
Does no-till wheat equal no forage? — Jeff Edwards
Alternative Forages for No-till Rotations — Darren Redfearn
Making No-till and Livestock Work-
Rotation Considerations — Chad Simmelink
- Room 3 Carbon Update/*Greg Scott*
What do Carbon Sequestration Rates
Look like in Oklahoma? — Jason Warren
Carbon Trading: A perspective from an
Electric Cooperative — Kent Fletcher
Carbon Trading: A perspective from a
Producer — Steve House
- Room 4 Technology/*Chad Godsey*
Yield Monitors — Randy Taylor
Producer — Roy Burns
Economics of Adopting Technology — Kevin Dhuyvetter



No-till Conference 2010

Agenda

February 9, 2010

- 8:00** Crop Rotation/*Jason Warren*
Crop Rotation Considerations — Alan Schlegel
Planning a Crop Rotation-Intensity and Diversity — Chad Godsey
Producers Perspective on Crop Rotation and What Works — Matt Steinert
- 9:30** Break
- 10:00** Equipment/*Joe Armstrong*
Considerations for Planting Summer Crops — Randy Taylor
Soil Compaction from Livestock: Equipment Needs — John Solie
Seeding and Fertilizer Placement — Mark Schrock
- 11:30** Lunch
- 1:00** Breakout Sessions
- Room 1 Conserving Soil Moisture/*Jason Warren***
Stubble Height Affects on Soil Moisture and Subsequent
Crop Yields — Lucas Haag
Water Use of Double Crops in Oklahoma — Tyson Ochsner
Rotations for SW Oklahoma — Gary Strickland
- Room 2 Nutrient Management/*Jeff Edwards***
Optimizing Nitrogen Fertilizer Through Use of Optical
Sensors — Brian Arnall
Putting the Technology to Use — Marty Williams
Starter Fertilizer Considerations — Chad Godsey
- Room 3 Further Considerations for No-till/*Greg Scott***
Converting CRP Land Back to Crop Production — Alan Schlegel
Understanding Insects in No-till — Kris Giles
Understanding the Benefits of Strip-till in
Oklahoma — Rick Kochenower
- 3:00** Break
- 3:30** Closing Session
No-till v2.0: Taking NT to the Next Level—Jimmy Kinder

Speaker Biographies

Mark Schrock

Mark is a native of Barber Co. Kansas, and was schooled at Kansas State University and the University of Illinois. He joined KSU Extension in 1973 as state agricultural machinery specialist, and fielded adult education programs in traction, machinery management, and energy. In 1980, he assumed teaching and research assignments at KSU Biological and Agricultural Engineering, where his research focused on energy, seeding and fertilizing equipment, and precision agriculture. He advised student design teams for the department and has completed short term assignments in China, Armenia, Egypt, and the Philippines. In 2007, he retired to his family's farm located about 20 miles north of Cherokee, OK.

Dr. John Solie

Dr. Solie, Regents Professor, has served in the Biosystems and Agricultural Engineering Dept., Oklahoma State University for 28 years. He has taught and conducted research on agricultural machinery design and on agricultural production systems. During those 28 years he investigated tillage systems, planting technologies, and alternative crop harvesters. Much of his work has focused on fertilizer and agricultural chemical application reduced tillage and precision agriculture production systems. He is one of the members of the team that created the GreenSeeker™ variable rate applicator for N fertilizer. Prior to earning his doctorate at the University of Nebraska, he farmed for ten years near Brownville, Nebraska.



Speaker Biographies

Randy Taylor

Dr. Taylor joined the Biosystems and Agricultural Engineering faculty at Oklahoma State University in August, 2005 as an Extension Engineer. Prior to joining the faculty at OSU, he spent almost 16 years as an Extension machinery specialist at Kansas State University. He helped coordinate several county level field days and conducted equipment adjustment clinics where 'hands on' educational programs are conducted with typical equipment. These field days and clinics were typically focused on managing residue at harvest and planting into crop residue. He has conducted applied research on the topics of conservation tillage equipment, row crop planter attachments, soybean row spacing/planting equipment, corn planter speed, anhydrous ammonia applicator efficiency, strip tillage, and no-till canola seeding. He has a B.S. and M.S. from Oklahoma State University and a Ph.D. from the University of Nebraska-Lincoln all in Agricultural Engineering.

Marty Williams

Marty farms with his wife Crystal and Daughter Ava near Red Rock, Ok. After graduating from OSU with an agronomy degree in 2004, Marty returned to the farm full time. As acres have been added to his operation, he has transitioned to an all no-till production system, and realized the great benefits that are associated with it. His rotation includes wheat, corn, soybeans, grain sorghum, and canola. Marty is always experimenting with new technologies and more efficient ways to increase production and maximize input costs.



I would like to welcome you to the *3rd No-till Oklahoma Conference*. The planning for this conference started nearly a year ago when a group that consisted of OSU extension, NRCS, Oklahoma Conservation Commission, and producers gathered to begin organizing the state-wide no-till meeting dedicated to no-till cropping systems. The intent is to bring producers from the southern Great Plains together to share ideas about no-till cropping systems and compliment this discussion with specialists from university and industry within Oklahoma and surrounding states.

Each session during the conference is designed to highlight specific aspects of no-till systems that are important for success. Speakers in each session consist of university specialist and producers with no-till experience. Producers in the sessions have several years experience with no-till and have overcome or adjusted to the obstacles many encounter early on in no-till cropping systems. This year we will offer several break-out sessions to accommodate the interests of the attendees. No doubt you will miss out on some topics of interests by choosing a particular breakout session but all presentations will be posted online at www.notill.okstate.edu following the meeting.

On behalf of the planning committee we thank you for attending the conference. We hope that you will find information and ideas shared during these two days to be beneficial to your operation. Enjoy the conference and have a great 2010!

Chad Godsey



Speaker Biographies

Alan Schlegel

Dr. Schlegel's primary research efforts have been with water and nutrient management strategies for cropping systems in a semi-arid environment. The focus of the dryland cropping systems research is to develop cropping strategies that reduce or eliminate tillage, increase capture and storage of precipitation, reduce evaporation and erosion potential while enhancing crop yields and profitability. The goal is to replace traditional fallow systems using conventional tillage with more profitable systems that better preserves soil, water, and air quality.

Jimmy W. Kinder

Jimmy is a 4th generation farmer/rancher from Cotton County Oklahoma. He, his father and brother control 5000 crop acres and 2500 acres of grass. Jimmy has 32 years of experience in stocker cattle and wheat enterprises. An early adopter of no-till production in southwest Oklahoma, his success in grazing wheat and harvesting grain has encouraged producers to change to no-till production methods.

Daren D. Redfearn

Daren Redfearn is an Associate Professor and Extension Forage and Pasture Management Specialist in the Department of Plant and Soil Sciences and has been with Oklahoma State University since October 2000. He received his B.S. degree in 1985 from Texas Tech University in Animal Science. He received both his M.S. (1991) and Ph.D. (1995) from the University of Nebraska-Lincoln in Agronomy with a Range and Forage Specialization. His extension program at Oklahoma State University emphasizes management and utilization of introduced pastures and forage species. He teaches upper-level undergraduate courses in *Forage and Grazinglands Resource Management*, *Cropland Ecosystems*, and *Plant-Environment Interactions*.



Speaker Biographies

Gary Strickland

Gary has been serving as Jackson County's Extension Educator for Agriculture/4-H and Rural Economic Development since July of 2000. He also serves as the County Extension Director in Jackson County. Prior to moving back to Southwest OK in 2000 Gary had spent the previous 18 years in Stillwater with the Department of Plant and Soil Sciences with responsibilities in the State-Wide Corn and Sorghum Extension and Research Variety Testing Program working with various other Departments, Universities, and USDA on both crop specific and cropping systems programs. He also spent a brief time in the Panhandle of Oklahoma as the Area Research and Extension Specialist for Agronomy. He is a native of Southwest Oklahoma graduating from Tipton High School and Western Oklahoma State College. He and his wife Lynne have 3 children and 5 grandchildren. Gary finished his college degrees at Oklahoma State University receiving both his Bachelor and Master of Science Degrees in Plant and Soil Science.

Chad Godsey

Dr. Godsey is an Assistant Professor in the Department of Plant and Soil Sciences at Oklahoma State University. He received a B.S. in Agricultural Business and Plant and Soil Science from Colorado State University, a M.S. and Ph.D. in Agronomy from Kansas State University. Dr. Godsey's extension and research efforts are focused on Oklahoma cropping systems with an emphasis in tillage and crop rotation. He has been at OSU since 2006.



Speaker Biographies

Kevin Dhuyvetter

Dr. Dhuyvetter is a professor and Extension State Leader in the Department of Agricultural Economics at Kansas State University. He has been at K-State since 1986, working as an area extension economist from 1986 to 1999 and a state extension specialist from 1999 to present. Kevin grew up on a diversified crop and livestock farm in northwest North Dakota and holds B.S., M.S., and Ph.D. degrees in agricultural economics from North Dakota State University, Iowa State University, and Kansas State University, respectively. As a research and extension agricultural economist, Kevin focuses his attention on analyzing the risks and returns associated with alternative production practices for crop and livestock operations, land values and crop leasing arrangements, machinery costs, and the economics of precision agriculture. Dhuyvetter has authored numerous publications and producer decision tools and was instrumental in the development and implementation of the Ag Econ *MAST* educational program and the www.AgManager.info website.

James Stiegler

Dr. James "Jim" Stiegler received his BS from Texas A&I University, his MS from OSU, and his Ph.D. from Virginia Tech. He was professor of Soil Science at OSU for 34 years and served as head of the Department of Plant & Soil Sciences from 2001-2007 before he retired. He continues to serve the university as an emeritus Professor as coordinator of an undergraduate student exchange program between OSU and two universities in Brazil. Prior to 1973 he was a Land Use Specialist at Kansas State University. His duties at OSU have included providing education programs in soils, including soil survey, soil management, conservation tillage, sustainable cropping systems and land judging. He has authored numerous book chapters, journal articles, fact sheets, current reports and popular articles.



Speaker Biographies

Tyson Ochsner

Dr. Ochsner is a native of Chattanooga, Oklahoma. He earned a B.S. in Environmental Science at OSU in 1998. He then studied Soil Science and Water Resources at Iowa State University earning a M.S. in 2000 and a Ph.D. in 2003. From 2003 through 2008, he worked as a soil scientist for the USDA Agricultural Research Service in St. Paul, Minnesota. Dr. Ochsner's research focuses on water, solute, and heat transport in soil. Current research projects include studies of soil moisture dynamics under different crop rotations, the interactions between bioenergy cropping systems and water resources, and the development of a Mesonet-based system for monitoring plant available water.

Alan Mindemann

Alan was raised on the family farm in Apache Oklahoma, which is located in the southwestern part of the state. He began farming in 1996 and his operation has been continuous no-till since 1998. Having a long term view has helped him to see the value of crop rotations as well as double crops and cover crops. His farms are located from Lawton to Ft. Cobb, with most of the land being dry-land with some irrigation. His rotations include; seed wheat, corn, canola, grain sorghum, soybeans, sunflowers, cover crops, and sesame. These rotations help recycle soil nutrients and control weeds for the next crop while keeping soil in place. To raise a variety of crops in a moisture-challenged area like southwestern Oklahoma it will take planning and foresight, you must do your homework. Alan has traveled Oklahoma, Texas, and Kansas for numerous speaking engagements on the benefits of no till farming. He is currently a board member of No-Till on the Plains and also serves on the Oklahoma Sorghum commission. He has been a certified crop advisor since 1999.



Speaker Biographies

Roy C. Burns

Roy is a fourth generation Navarro County, Texas farmer. Who was raised around row crops and cattle ranching from an early age. Working on his family's farms, and as a young man for larger operations, Roy began full-time farming in 1976 and has continued for 33 years. Since his dad's (and partner) death in 1998, Roy has operated a Wheat, Corn, Grain Sorghum, and Cotton operation on 2050 acres of his own and 3000 acres of custom combining without any outside labor force other than help during harvest. He graduated from Texas A & M University in 1976 with a B.S. in Agricultural Economics. Technology helps this farmer increase efficiency in his one-man operation.

Preston Simic

Preston was born and raised on the farm at Garber. His family raised mainly wheat and stocker cattle on about 2500 acres of land. He graduated from Garber in 1996 and went on to Oklahoma State to get a business degree in Marketing in 2000. He worked in Tulsa at Williams Energy Company trading natural gas and electricity for three years from 2000-2003. His wife Trudy and he were married in 2001 and by 2003 had moved back to the Garber area to start both a family and farming. In 2003 they started farming approximately 1500 acres of wheat on conventional till land. After much discussion with friends and family, in 2004 they decided to switch everything to no-till to help save on soil moisture and equipment cost. In 2004 they also decided that they could benefit more from the no-till if we started using crop rotations. Since 2004 they have been mainly a grain only operation with a rotation of wheat, corn, and soybeans. In 2006 Trudy and Preston were blessed with the first of two boys, Peyton (4) and Parker (2).



Speaker Biographies

Silvano Abreu

Silvano is a PhD candidate at the Department of Plant and Soil Sciences, Oklahoma State University. He has a BS in Agronomy from EARTH University in Costa Rica and a MS in soil science from Federal University of Santa Maria, Brazil. Mr. Abreu has several years of experience in no-till research in Brazil and US. His research focus is on evaluation of soil physical properties and carbon stock under no-till and conventional till as well as crop rotation to enhance soil quality under no-till agriculture.

Richard Zetterberg

I currently serve as the Assistant State Conservationist for Programs in the NRCS State Office in Stillwater, a position I have held since July, 2009. Prior to that, I was a Resource Conservationist on the Programs staff for four years and managed EQIP, WHIP, and CSP. I received my BS in Range Management from OSU in 1981. My career with NRCS began in 1982 as a Range Conservationist serving for five years in Roger Mills, Beaver, and Osage Counties. I transferred to Kay County in 1987 as a District Conservationist where I served for 17 years before going to work in the State Office in 2005.

Scott Bretthauer

Dr. Bretthauer is an Extension Specialist in Application Technology with the Department of Agricultural and Biological Engineering at the University of Illinois at Urbana-Champaign. He received his Ph.D. from the University of Illinois. Scott is a member of the Pesticide Safety Education Program, and is responsible for maintaining the group's website and coordinating the Private applicator program. He provides technical assistance on application equipment, nozzle selection and usage, drift reduction technologies, and sprayer calibration.



Speaker Biographies

Jeff Edwards

Dr. Edwards currently serves on the faculty of Oklahoma State University as an assistant professor and small grains extension specialist. Jeff grew up on a diversified tobacco/beef cattle/timber farming operation Olaton, KY. He obtained a B.S. in ag-business from Western Kentucky University in 1995 and spent four years with Miles Enterprises Opti-Crop Division, as a crop consultant and manager. Dr. Edwards received a M.S. in Weed Science in 2001 and a Ph.D. in Crop Physiology in 2004 from the University of Arkansas. Dr. Edwards' current research and extension program is geared towards increasing the adoption of conservation and no-tillage wheat production practices in the Southern Great Plains and optimization of the wheat/stocker cattle production enterprise.

Kent Fletcher

Kent is an Environmental Specialist with the Western Farmers Electric Cooperative (WFEC). He received his B.S. in Agricultural Economics from Oklahoma State University in 1982. He has over 20 years experience in environmental work. Currently, his work at WFEC includes: Permitting for three power plants, and managing the National Environmental Policy Act (NEPA) compliance for WFEC, as well as managing WFEC's compliance with green house gas reporting. He is also active in national trade associations in dealing with carbon.

Chad Simmelink

I graduated from Kansas State University with a degree in Biological and Agricultural Engineering in 2002. After graduation, I returned to the family farm in north central Kansas, which has been continuous no-till for seven years growing wheat, milo, corn, soybeans, various forages, and bred heifers. My wife, Jennifer, and I have two daughters; Hannah, 4, and Bethany, 2.



Speaker Biographies

Jason Warren

Jason Warren currently serves on the faculty of Oklahoma State University as an assistant professor, and soil and water conservation/management extension specialist. Jason grew up on a small grain and cattle farm in Woods Co. OK. He earned a B.S. degree in Environmental Sciences in 1999 and M.S. in Plant and Soil Sciences in 2001 at Oklahoma State University. Jason continued his education at Virginia Tech, where he obtained a Ph.D. in Crop and Soil Environmental Sciences in 2005 and then spent two years as a Post Doctoral Research Soil Scientist at the USDA-ARS Animal Waste Management Research Unit in Bowling Green, KY. Dr. Warren's research and extension efforts will focus on management practices to improve soil quality and water conservation.

Matt Steinert

Matt was raised on a diversified family farm near Covington, in north central Oklahoma. He attended Oklahoma State University, earning bachelor's degrees in both Agricultural Engineering and Plant & Soil Sciences, before returning to the family operation. During this time the operation transitioned as it expanded, from conventional tillage continuous wheat, to a predominantly no-till system incorporating numerous rotational crops, including wheat, corn, soybeans, cotton, sorghum, canola, and cowpeas. Today, he farms in partnership with his wife Autumn, parents Bill & Rhonda, and brother Adam with the focus of utilizing equipment and technology to increase operational efficiency and preserve environmental quality in a system that improves crop yield and quality.



Speaker Biographies

Lucas Haag

Lucas Haag was raised on a diversified dryland farming and ranching operation near Lebanon, Nebraska along the Kansas/Nebraska line. He received his B.S. in Agricultural Technology Management from Kansas State University's Department of Bio & Ag Engineering in 2005 and a M.S. from K-State's Department of Agronomy (crop production/ecophysiology) in 2008.

While there his research efforts involved implementing precision ag technologies in dryland cropping systems and evaluating the impact of stubble height on evaporation and subsequent crop yields. Lucas is currently an assistant scientist at K-State's Southwest Research-Extension Center at Tribune, Kansas. His efforts there support the stations overall mission of improving water and nutrient use efficiency in semi-arid dryland and limited irrigation cropping systems. His personal research projects continue to evaluate the impacts of wheat stubble height on subsequent crop production and the use of alternate planting geometries to stabilize and improve dryland corn and grain sorghum yields.

Joe Armstrong

Dr. Armstrong is the Weed Science Extension Specialist in the Plant and Soil Sciences Department at Oklahoma State University. His responsibilities include issues surrounding weed control in all agronomic crops, as well as delivering educational information to county, regional, and state extension educators; agricultural producers; commodity groups; agri-businesses; and state and federal agency personnel. Joe is a native of northeast Kansas and has been at Oklahoma State since April 2009.



Speaker Biographies

Matt Gard,

I have been helping on the family farm since I was 8 years old, being the fourth generation, I saw the need to rebuild what was taken away. I live on the original homestead and firmly believe in leaving the environment in better shape than how I found it. I purchased the family farm and the challenges that go with it in the early 80's. I have seen the need to stay in front of the latest technology and farming practices. In western Oklahoma we average about 25 inches of rain fall and I remember both nights that it rained. We have to find ways to conserve our moisture and I think no-till and min-till are very important. I am very active with OSU in test plots of seed, tillage, and cropping systems. I am also a certified crop advisor, founding member of Plains Oilseed Products, seed dealer, commercial applicator, and a commercial pilot. I also am a member of my local conservation district, past vice president of Oklahoma Association of Conservation Districts, and I am currently Chairman of the Oklahoma Conservation Commission.

Brian Arnall

Dr. Arnall's extension, teaching, and research efforts are focused on nutrient management in all of Oklahoma's cropping systems with an emphasis in site specific techniques. He works closely with extension educators and industry personnel to improve nutrient management practices in Oklahoma that will lead to increased profitability of Oklahoma producers. He currently has several on going studies that are focused at developing methods to use sensor based technologies in cotton and sweet sorghum production. Other research is focused on the comparison of traditional and new site specific N management strategies at a large scale and also the evaluation of fertilizer and soil amendment products which are on the market in Oklahoma.

