

Brock Farms, *Jefferson County*



After Kirk Brock returned to the family operation, begun by his grandfather, he began to use high-residue cover crops and strip tillage to reduce weed pressure, prevent soil erosion, increase soil organic matter, reduce soil temperatures and retain moisture in corn, cotton and peanuts. Some universities are trying these techniques at the field plot level. Kirk has already put it into practice on a whole farm scale and is making it work.

Brock Farms plants approximately 1050 acres of crops annually in the rolling hills of north Jefferson County. The land isn't flat and it isn't irrigated. With conventional tillage, this land washes when it rains. When it doesn't rain, it's dry, and crops suffer. "We got tired of hauling topsoil back to the top of the hill every year," Kirk said, referring to the seemingly long time ago when we had "normal" rainfall.

The system starts with a winter cover crop of cereal rye. Before spring planting the rye is killed with herbicide. Kirk uses a homemade roller (He calls it the "biomass annihilator") to flatten the rye in front of the planter. Seed go into a narrow trench in the mulch as it's knocked down.

Kirk makes it sound like every father and son "just builds it" when they need a specialized piece of equipment. In fact, the roller isn't the only thing they've built or modified to their specifications. Planters, fertilizer equipment and other equipment on the farm have been subjects of the duo's shade tree modifications to increase efficiency.

The rye mulch shades out weeds and reduces soil surface temperatures resulting in reduced moisture loss from the soil. "Last year during the heat of the summer we measured soil surface under the mulch and on exposed soil. Soil underneath the mulch was twenty-five degrees cooler than the bare soil, and we have significantly improved our control of Palmer Amaranth. Weeds don't sprout if they don't have sunlight."

Kirk is continually monitoring and modifying his production system. He's constantly seeking new knowledge, both from his own farm and from the outside. He uses random soil pits to observe his crops as they grow and watches for changes in organic matter, compaction and water penetration. Kirk was an early adaptor and proponent of Best Management Practices in the Suwannee River Partnership, and has been actively involved in the tri-state (GA, FL and AL) climate working group since its inception. He now uses climate predictions and long term data from the group's members to plan his planting schedules, labor requirements and cover crop termination.

Improving Agriculture through Extension Involvement

Brock Farms has been a real world laboratory for UF/IFAS Extension, the Florida Department of Agriculture, the Natural Resources Conservation Service, the Southeast Climate Consortium, the Florida Climate Institute and numerous other organizations. The farm is a cooperator on a UF SARE grant project on cover crop management and Kirk is an active participant in the tri-state climate working group's development and testing of climate adaptation strategies. His thirst for knowledge drives him to seek advice from all sources, and his experience and credibility draw a wide range of visitors, making the county a strip till Mecca for the exchange of information among agencies and farmers alike.

The farm has hosted tours from several Extension programs and Kirk has made off farm presentations at such events as the "The Adaptation Exchange", a workshop presented by the tri-state climate working group. Working with Kirk has increased my knowledge of conservation practices and has connected our county Extension program with people and concepts that otherwise would have remained outside our Extension programs.

Impacting Agriculture in the Northwest District

Kirk Brock is an outstanding example of farmers' ability to creatively develop and implement effective production practices to ensure the quality of Florida's soil and water. Farming brings new challenges every year, but sustaining soil health and water quality remains fundamental. Kirk's innovative practices and results have stabilized his own farm and led the way for other farmers in North Florida, South Georgia and Southeast Alabama and the researchers and technical personnel who work with farmers. Farmers listen to other farmers, and Kirk has more than a decade of successes and adaptations to his credit.

Brock Farms received the 2008 Agricultural Environmental Leadership Award from the Florida Department of Agriculture and Consumer Services. This year he worked with a team from NOAA, UF Extension and the Southeast Climate Consortium to develop an online video that highlights his approach to reduce climate related risks. <http://www.climatewatch.noaa.gov/video/2012/droughts-downpours-harvesting-rain-on-a-dryland-farm>

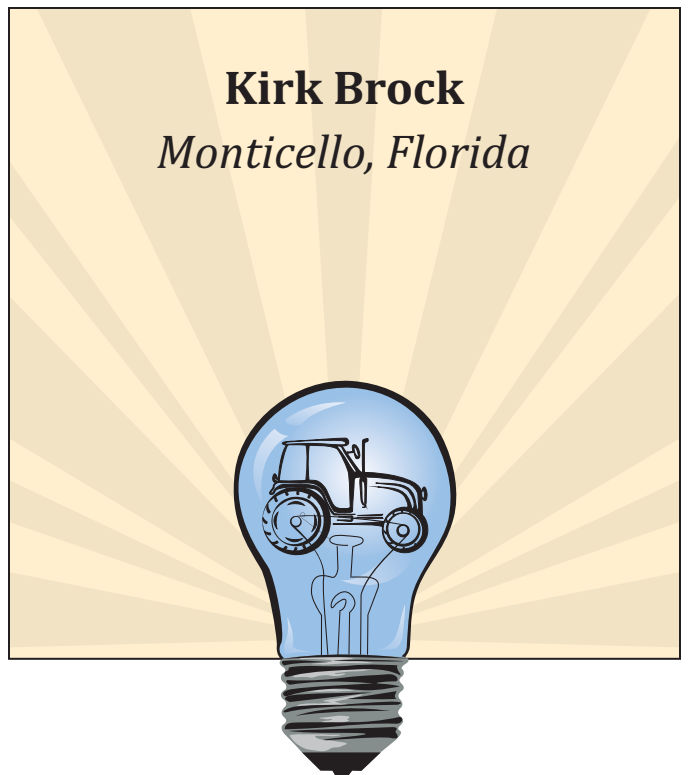
The NRCS will feature Brock Farms in its upcoming national "Healthy Soils" initiative, and an EDIS fact sheet is being developed from his presentation at this year's meeting of the tri-state climate consortium.

He is eager to share his experience, skills and knowledge with his peers and just as excited to look for new ideas he can incorporate into his production. As Kirk put it in a 2010 interview, "I feel like farmers should be involved with each other and communicate with one another about what's working and problems that they may have." He has certainly done his part.

Kirk Brock is a true agricultural innovator, a life long learner and a leader in soil and water conservation in Florida and beyond. Jefferson County is proud to nominate him as our 2012 Agricultural Innovator. ■



Northwest Florida Extension District



Kirk Brock
Monticello, Florida

2012 Agricultural Innovator