

Advancing Organic Agriculture in the Mid-South: Evaluating Systems and Reducing Barriers to Entry

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The number of certified organic farms (nationally) has increased dramatically recently with a subsequent increase of organic farm related sales reaching almost \$10 billion. Demand is outpacing supplies, with growth rates quadrupling those of non-organic food sectors during the last 15 years. In 2017, for example, sales of *organic food* reached \$45 billion with significant sales of organic non-food items growing steadily as well. Retail premium prices for organic products range from about 15 to 100% above standard prices, depending on the commodity.

Currently, only about two percent of cropland nationwide is certified organic, though acreage is increasing. The increase has been considerably slower in the Mid-South. The reasons vary, but the extended growing season, high temperatures and humidity, make organic management difficult, especially in areas where pest issues are heightened. Management demands in organics is higher compared to conventional production. Weed control is a formidable task, and the transition to organic crop production can be challenging with a three-year transition period.

If these barriers can be overcome, farmers transitioning to organic crop production can significantly increase their economic returns, and by extension, rural communities will benefit greatly. This project is a multi-year, multi-state effort that is designed to address those barriers to organic production in the Mid-South region. Success in this will make transition to organic crop production a more viable option for interested farmers.

The objectives for the project are to: 1) conduct a replicated, controlled research trial on organic crop management systems and the impacts on crop production, pest management, soil health and economic viability; 2) implement geographically diverse, farm-scale trials to substantiate best management practices observed from the first objective; and 3) perform education and outreach activities to enhance farmer adoption of organic production.

The research activities are located at the USDA Dale Bumpers Small Farms Research Center (DBSFRC) near Booneville, AR. Scientific research is conducted on small, replicated field plots that are approximately 0.3 acres in size.

Demonstration sites have been placed at three locations. One is near the research site at the DBSFRC. Another is conducted by the University of Missouri and is located at the Southwest Research, Extension, and Education Center near Mt. Vernon, MO. The third site located at the Agricenter International Park in Memphis, TN. Demonstration sites range from 12 to 20 acres.

Research and demonstration will help answer questions on integrated (with cattle), conservation, and profit-driven organic systems. The integrated system is based on cattle grazing cover crops and examines agronomics, economics, soil health, and overall management. The conservation system is more traditional and based on agronomic timing and tillage to optimize field crop production. The profit driven system is based on producing two saleable crops, one from the winter cover crop and the other from the summer cash crop. The underlying agronomics are based on two primary factors: that of tillage vs no-till and establishment and maintenance of a winter cover crop. Aspects considered are overall pest management (with a focus on weeds), soil health and economics.