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

The number of certified organic farms (nationally) has increased dramatically in the last few years with a subsequent increase of organic farm related sales reaching almost $10 billion. Demand is certainly 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. And 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. Organic management can be difficult, especially in areas where pest issues are heightened (e.g., Mid-South). In fact, this increase has been considerably slower in the Mid-South and South. The reasons vary, but the extended growing season with elevated temperatures and humidity are very problematic for organic production as it relates to pest management. It can be done, but overall management is increased compared to conventional production. Weed control is, in particular, a formidable task and many farmers are not equipped to deal with the problem. As well, the transition to organic crop production can be challenging with a three year layout until premiums can be realized-at least in most cases.

But, if these can be overcome, farmers transitioning to organic crop production can significantly increase their economic returns, and by extension, rural communities will benefit greatly. The 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, broadly, 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 will be primarily located at the USDA Dale Bumpers Small Farms Research Center (DBSFRC) located in Booneville, Arkansas. This research is conducted on smaller, replicated field plots that are approximately 0.3 acres in size.

Demonstration sites have been placed at four locations across the Mid-South region. One is closely attached to the research field site at the DBSFRC in Booneville. Another is being conducted by the University of Missouri and is located at the Southwest Research, Extension, and Education Center near Mt. Vernon, Missouri. The final two demonstration sites are located at the Agricenter International Park in Memphis, TN and at a farm operation near Copan, OK. The demonstration sites range from 12 to 20 acres in size.

Research and demonstration sites are actively pursuing answers to questions regarding integrated, conservation and profit-driven organic systems. The integrated system is based on stock grazing as it relates to feasibility of organic agronomics for field crop production, economics, soil health and overall management. The conservation system is more traditional and based on agronomic timing and tillage to optimize field crop production. And 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 is 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.