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

Project Update
December 2022

A project designed to promote the use of organic agriculture to improve profitability of Mid-South farmers.

Organic production can significantly improve on-farm income and profitability in comparison to conventional commodity production. At the same time, higher output prices and lower breakeven acreage required can increase profit if production costs can be kept in check (McBride et al., 2015). Premiums are rising and improved genetics and management tools combine to make overall yields very competitive with conventional crops (Fisher, 2011; McNeil, 2018). Once an operation gets through the transitional stage (i.e., the learning curve and organic certification), the farm is positioned to increase income significantly via premiums that often reach two to three times that of standard commodities (Fisher, 2011).

Despite this, however, it seems that few farmers in the region are willing to transition acres to certified-organic crop production. The reasons are varied but are due, primarily, to pest issues, certification problems and overall lack of experience in this type of production. Based on these and other significant factors, developing research and outreach *designed* for the Mid-South region will potentially make transition a more viable option.

Long-Term Goals and Outreach Objectives for this USDA Project. The long-term goal of the project is to make organic farming a viable option for Mid-South farmers through production information that is tailored to the growing environment and support that is readily available through a community of practice. This will entail collecting and sharing high-quality research-based information demonstrating practical application of organic management production in the Mid-South region by accomplishing the following three objectives:

1) Conduct a replicated, controlled research trial on organic crop management systems and 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
3) Perform education and outreach activities to enhance farmer adoption of organic production

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The project started on September 15, 2021. The immediate objective of early work involved establishment of the research plots and farm demonstration sites as outlined in the project objectives/tasks.

The three on-farm demonstration sites were secured at the USDA Small Farms Research Center in Booneville, Arkansas (the Arkansas site); the Southwest Research Center (SRC), a 900-acre

facility of the University of Missouri, located near Mt. Vernon, Missouri (the Missouri site); and the Agricenter International (Agricenter), near Memphis, Tennessee (the Tennessee site).

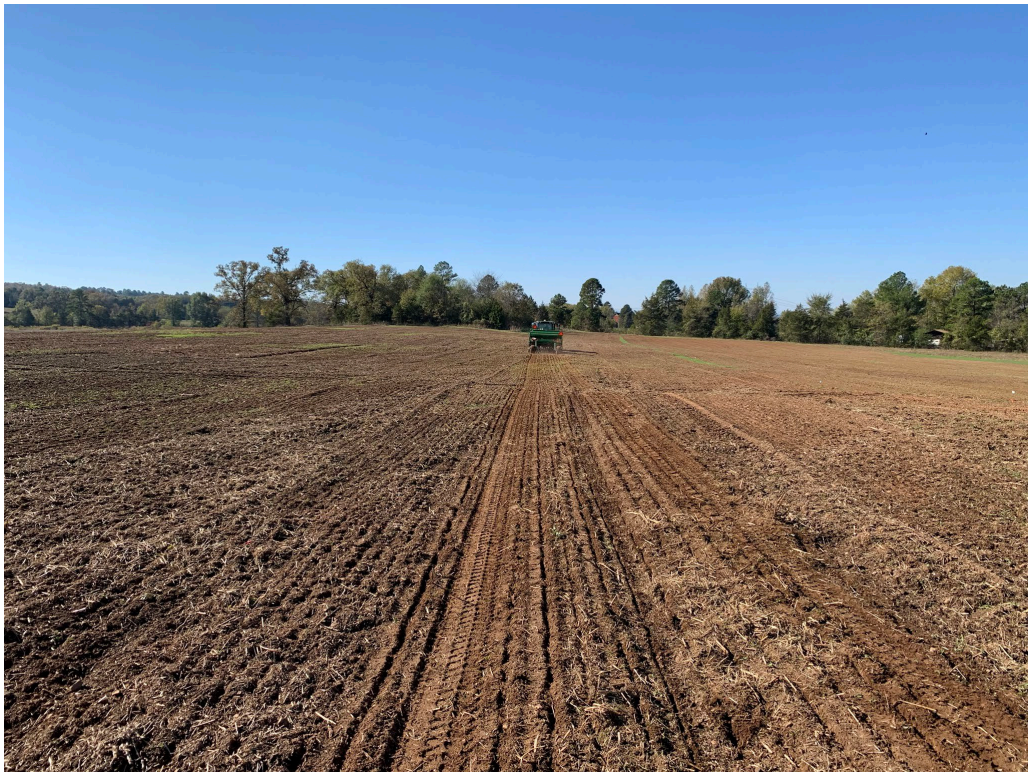

Figure 2. Demo site planted at the USDA Small Farms Research Station in Booneville, AR. November, 2021.

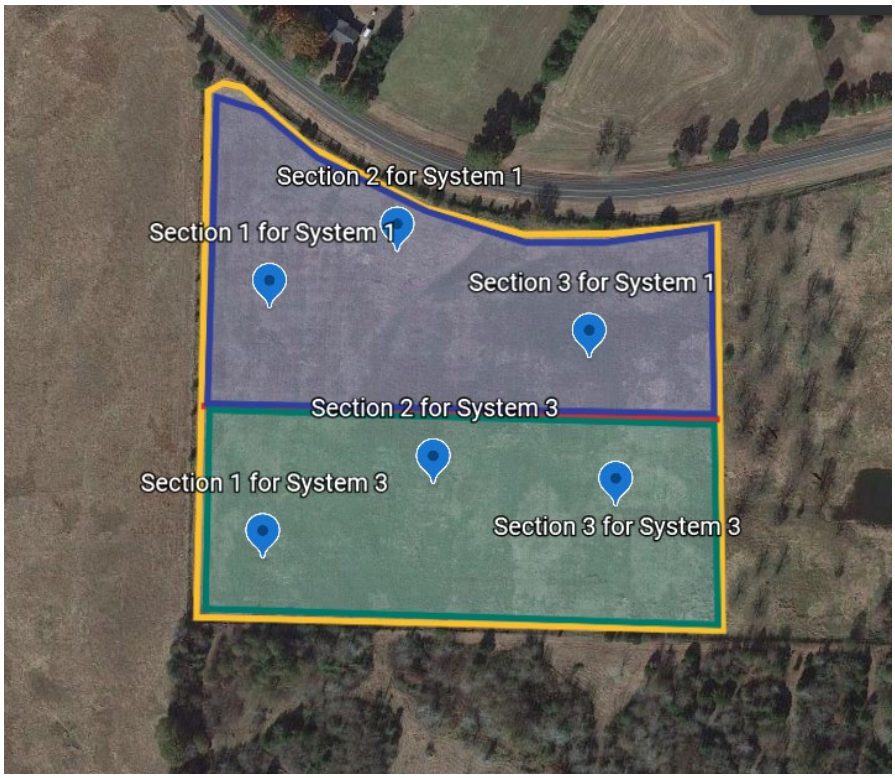

Figure 3. Demo site location at the USDA Small Farms Research Station near Booneville, Arkansas. The 11 acre site is just south of Booneville and North of the station headquarters on Hwy 23.

The site was planted in November with excellent stands of cereal rye noted in early December.

The Missouri site was established in October with superb stands of cereal rye by December, 2021.

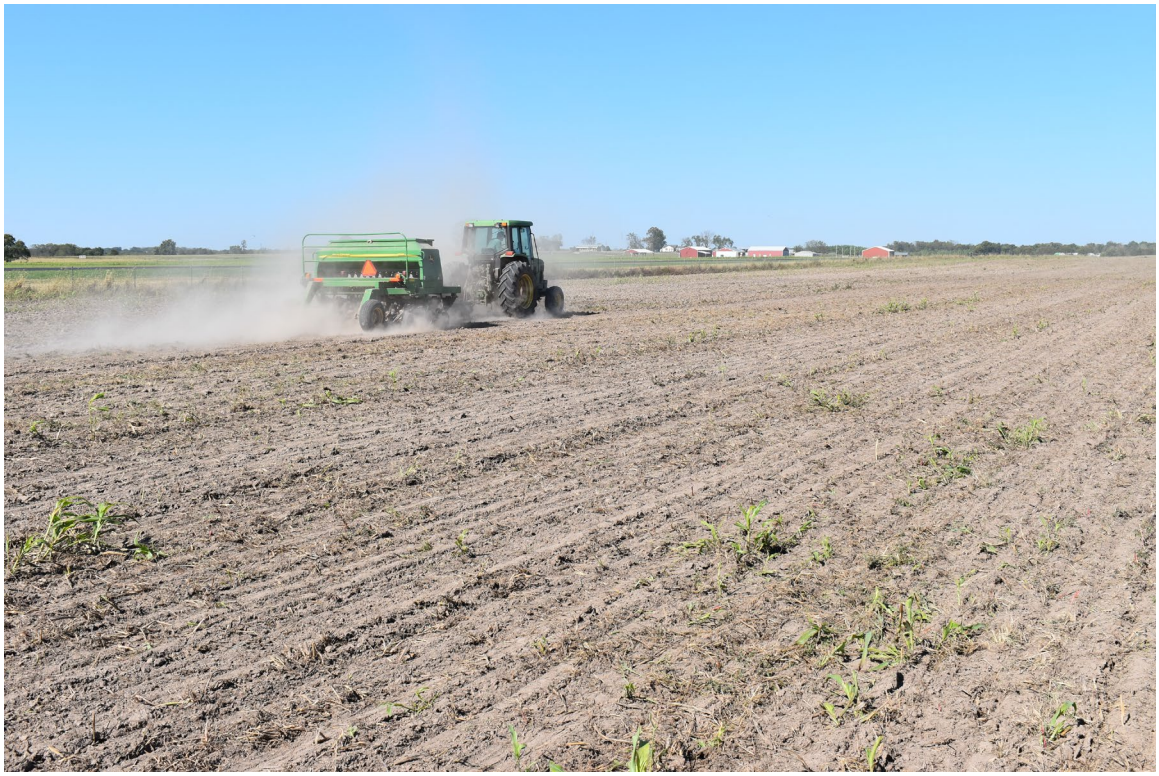

Figure 4. Demo site planted at the University of Missouri Southwest Research Center near Mt. Vernon. October, 2021.

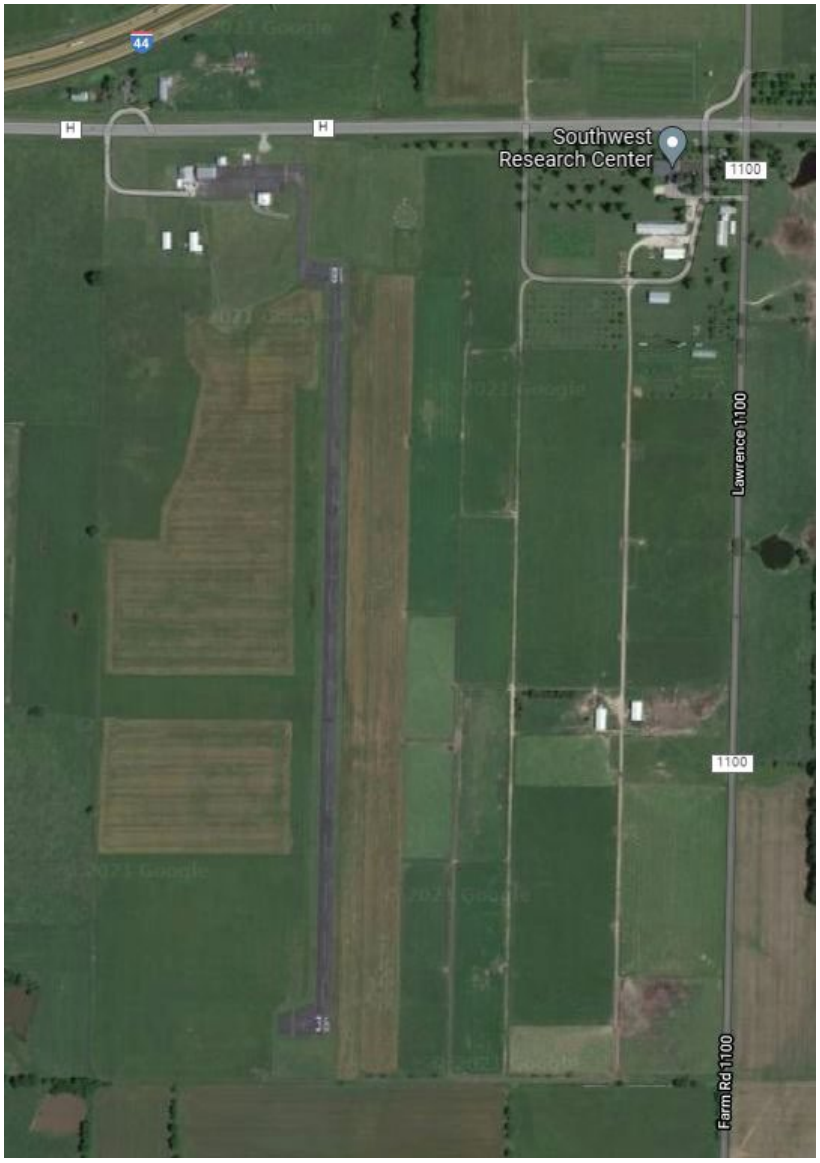

Figure 5. Demo site location at the University of Missouri Southwest Research Center near Mt. Vernon. The site is approximately 12 acres and is shown just southwest of the station (upper right corner) and just east of the airport strip.

The Tennessee site was established at the Agricenter International (Agricenter), near Memphis, Tennessee (Fig 1) in mid-October. It should be noted that this site is already fully USDA organic certified (Figures 6,7).

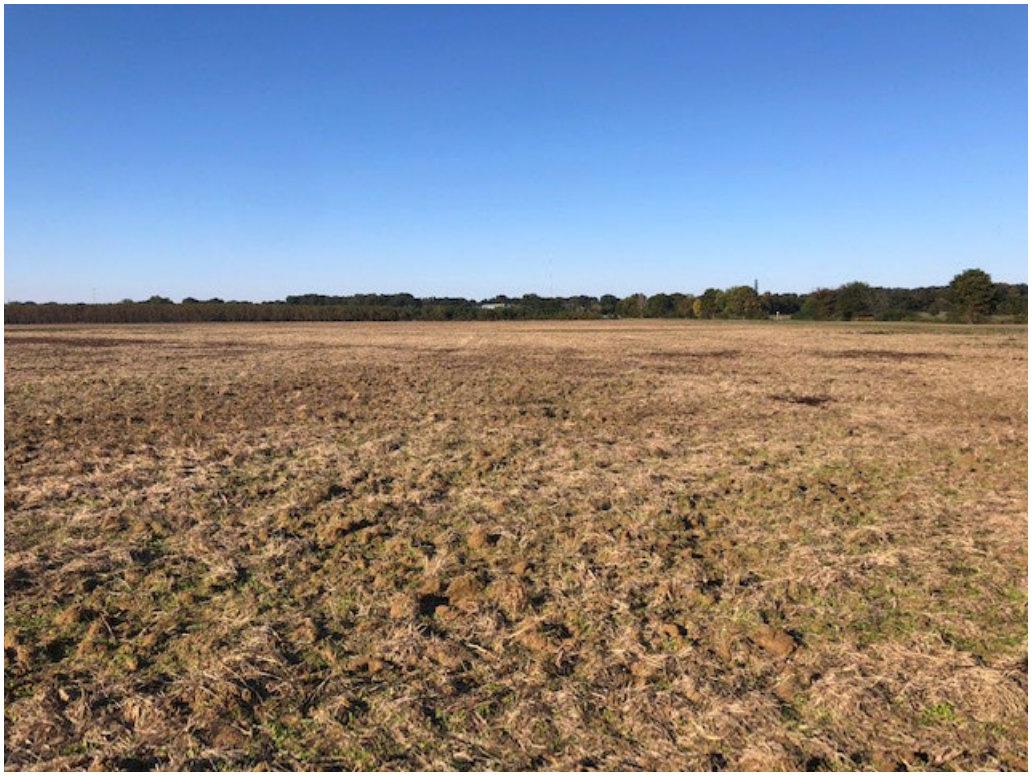

Figure 6. Demo site located at the AgriCenter near Memphis, TN.

Figure 7. Demo site location at the AgriCenter near Memphis, TN. The site is approximately 20 acres and is shown just to the East of the Shelby Farms Community garden.

The cereal rye stands were also well established by December, 2021.

In addition to the demonstration sites, the research plots were also established at the USDA Small Farms Research Center at Booneville (Arkansas). This site was established just north of the demonstration site and consisted of 16 plots, each about 0.3 acres each.

The plots were seeded slightly earlier than the demonstration sites and stands were more established by the end of the year. The treatments outlined consisted of the following treatments with four replicates each:

1. No-till plots roller crimped with summer crop established
2. No-till plots that are grazed followed by summer crop establishment
3. Conventionally tilled plots grazed and followed by summer crop establishment
4. Conventionally tilled plots harvested (cereal rye) and followed by summer crop establishment

The project is on schedule with all sites participating, demonstration fields seeded with established stands and research plots laid out, established and managed.