



University of Nebraska Rogers Memorial Farm

The Rogers Memorial Farm is a half section farm located at 185th and Adams, approximately 10 miles east of Lincoln, Nebraska. The farm is operated as a research and demonstration farm by the Department of Biological Systems Engineering (BSE), cooperating with several other University departments and USDA agencies. Several University classes use the farm as an outdoor laboratory for real life situations and experiences.

This dryland farm is typical of many small farms in southeast Nebraska. About two-thirds of the farm consists of sloping, terraced fields and the remaining third is fairly level. The silty clay loam soils have fairly slow infiltration rates and show evidence of past erosion. The BSE department has dedicated this farm to soil and water conservation activities, evaluating and demonstrating both cultural and structural practices.

Corn (about 30 acres), soybeans (about 130 acres), grain sorghum (about 40 acres), and wheat (about 40 acres) are all raised using no-till tillage systems. Both a planter (6x30 inch) and a drill (24x7.5 inch) are used for soybean and grain sorghum seeding. Research has included 15 inch rows and narrow row corn as well. Crop rotations include corn-soybeans-soybeans on the level bottomland, soybeans-grain sorghum-soybeans-wheat on the sloping, terraced uplands, and some grain sorghum-soybeans in between. The crop rotations minimize insect and disease problems and allow for herbicide rotation in the weed control program.

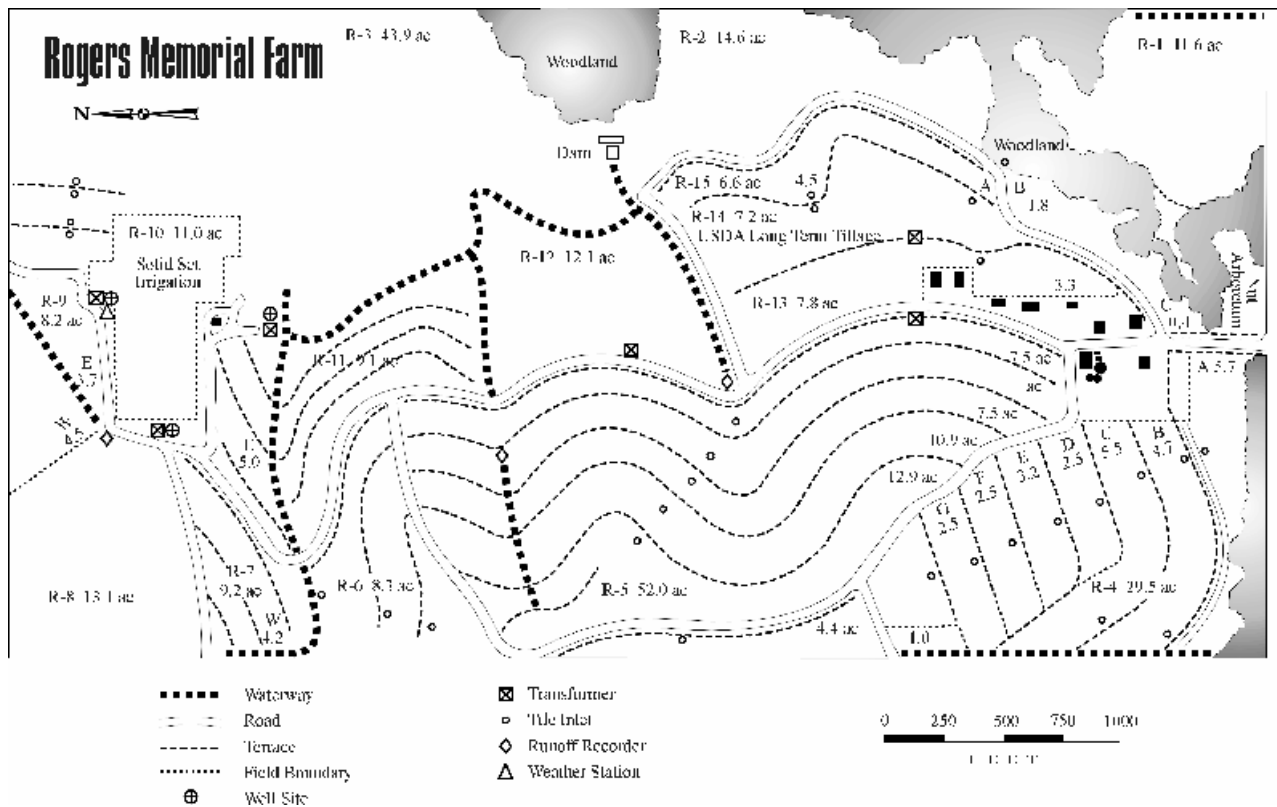
For soil moisture conservation, the weed control program uses early preplant residual applications, herbicide treatment of the wheat stubble, and no row crop cultivation or tillage. Roundup Ready Soybeans, postemerge treatments (as necessary), and some fall applications are also effective tools used in the weed control program, particularly for perennial weeds. With this integrated approach, there has been little need for burndown herbicides. Correct weed identification and herbicide selection, combined with proper timing and uniform application, are keys to making the weed control program work.

The fertility program is based on soil tests and realistic yield goals. Anhydrous ammonia is the primary nitrogen source for corn and grain sorghum production, usually knife applied in the fall to minimize disturbing the wet soil and residue in the spring. Dry ammonium nitrate is broadcast spread on the wheat in the spring. These three crops receive an in-furrow application of liquid 10-34-0 at planting time as a starter and phosphorous source. No fertilizer is applied for soybean production. Lime is surface applied periodically in the fall at low rates to correct pH problems without tillage incorporation.

Conservation research includes comparison of tillage systems in a grain sorghum-soybean rotation, a corn-soybean rotation, continuous corn, and continuous soybeans. The tillage systems on these plots were established in 1981, providing valuable data on the long-term effects of tillage practices. As with many no-till studies, the soil building benefits of no-till were not readily seen in the first few years of research. Across the years, rainfall simulators have been used on other plots to evaluate erosion and runoff from different tillage systems and to look at water quality concerns. Runoff and leachate studies are being conducted to evaluate nitrogen and phosphorous losses from land application of manure, compost, and fertilizers. A solid-set irrigation system has been used to evaluate irrigation scheduling methods, deficit irrigation, and impacts on water quality.

Research and demonstration of structural conservation practices have included different terrace layouts, terrace types, and terrace outlets. Woodland and windbreak renovation and establishment practices are being evaluated, using both the farmstead and the riparian areas along a creek. New projects are starting to demonstrate and evaluate stiff-grass hedges and riparian buffers for both erosion control and water quality concerns. A newly constructed wetland is being used for household wastewater treatment and includes several smaller cells for other wetland and water treatment studies.

Some production related research is conducted using strip trials, just as many farmers would do on their own farms. Hybrid and variety testing, row spacing and population studies, planting date comparisons, equipment evaluations, and fertilizer trials are examples of some of the cultural production practices being evaluated. Results from this type of applied research are being used to fine-tune the farm's general crop production, adds to demonstration aspects of the farm, and are used to support Extension programs.



For more information, contact the Farm Manager (402-472-6332, office or 402-781-2879, farm) about the farm production areas or Paul Jasa, Extension Engineer (402-472-6715) about no-till or the demonstrations and research on the farm.

The Farm's Website is: <http://bse.unl.edu/rogersfarm/>

For weather info at the Farm: <http://www.wcc.nrcs.usda.gov/scan/site.pl?sitenum=2001&state=ne>

