

2005 Wheat & Feed Grain Project Summary

TITLE: Continued Support of Long-term, Field Research

PROJECT LEADERS: C. C. Mitchell, D.P. Delaney, K.S. Balkcom

The “Old Rotation” (c. 1896) and the “Cullars Rotation” (c. 1911) continued the trend of higher and more consistent yields of all crops that began around 1997 when the experiments were changed from conventional tillage to high-residue conservation tillage with subsoiling. An all-time record cotton yield of 1660 lb. lint/acre was produced on the Old Rotation. A wet growing season resulted in no yield response to irrigation by cotton or corn. Soybean did respond positively to irrigation because of a dry fall season. Since irrigation began in 2003, there has been an average corn yield increase of 24% from irrigation. There was no cotton yield increase due to irrigation. Irrigation increased average soybean yields by 19%. The Cullars Rotation continues to get much more public exposure because of its location adjacent to the Jules Collins Smith Museum of Fine Art in Auburn. New signs were erected in 2005.

Peanuts were planted for the first time ever on the “Two-Year Rotation” soil fertility experiment (c. 1929) at the Prattville Research Unit. Yields on the better treatments averaged around 2 tons per acre. For the third year in a row, there was no yield difference in cotton yields under conventional compared to conservation tillage. Cotton yields on the better fertility treatments were over 2 bales per acre. At the Tennessee Valley, the higher fertility plots produced over 1250 pounds lint cotton per acre in rotation with 39 bushels soybean per acre. The “Rates of NPK Test” (c. 1954) at Prattville and Tennessee Valley continue to verify N rates for modern cotton cultivars. No yields were recorded for these tests at Wiregrass R&E Center. At Sand Mountain these long-term tests are planted in forages while they are fallow at Brewton and Upper Coastal Plain.