



Conservation Systems Research

Conservation Systems Research A Partnership with the Farmers of Alabama

CONSERVATION SYSTEMS SPECIAL PUBLICATION NO. 02

United States
Department of
Agriculture

Agricultural
Research
Service

National Soil
Dynamics
Laboratory

Conservation
Systems
Research



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No. 02

March 2006

In 1999, a group of customers that included Alabama farmers met in Auburn to help set the direction of the National Soil Dynamics Laboratory's conservation tillage program. At that time, the program included two scientist positions – a research agronomist and an agricultural engineer. It was important to get the farmers' input about the direction of the program and what products should come from it.

The top issues that were identified by the meeting included the following:

- Systems approach to conservation tillage.
- Moisture management.
- Economics and profitability of reduced tillage.
- Putting research results directly into producers' hands.

This meeting was the beginning of the Conservation Systems Research program; a partnership of Alabama farmers, the USDA-ARS National Soil Dynamics Laboratory, Auburn University, Alabama A&M University, and Tuskegee University.

Since 1999,

- Funding: increase of \$2.2 million.
- ARS scientists: 4 new positions.
- ARS technicians: 5 new positions (all M.S. level).
- University staff: 5 new positions (3 Auburn, 1 A&M, 1 Tuskegee).
- Graduate students: 19 (to date).
- Over 60 current and completed research projects throughout Alabama.
- Over 10,000 customers advised on conservation systems production practices.
- A dramatic increase in the number of acres farmed using conservation systems technologies.

Contact us:

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Products

Economics and Outreach



Survey of farmers identified their insights on the Conservation Security Program.

Field Days, Meetings, Extension Training, Expos:

- Beltwide Cotton Conferences
- Sunbelt Ag Expo
- Southern Conservation Tillage Systems Conferences
- Conservation Tillage Systems Field Days
- Georgia Conservation Tillage Alliance meetings
- Tuskegee Farmers Conferences
- AAES Field Days – Cotton, Peanut, Precision Ag.
- Southern SAWG annual conferences

Fact sheets, project descriptions and reports.
Delivered on paper, CDs, and web sites.



Soil Management

Optimize soil fertility management for cash and cover crops.

Reducing energy requirements and soil compaction while maintaining large amounts of surface residue.

Patented an *on-the-go* system to determine soil strength.

Determine tillage and residue management options to optimize soil moisture conditions for cotton systems.

Residue Management



Evaluated planter attachments to minimize residue disruption.

Increasing knowledge of residue / tillage implement interactions and their effects on carbon sequestration.

Patented *SoilSaver* black oat, an improved cover crop for nematode resistance and biomass production.

Patented a roller design to reduce vibration and manage cover crop residue.



Crop Management



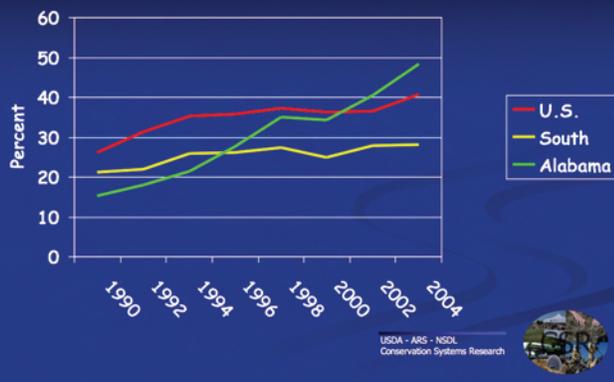
Studied control of nematodes and thrips in conservation systems.

Developed new cropping systems for north Alabama, increasing conservation tillage dramatically.

Increased knowledge of managing high residue systems for cover crops, carbon sequestration, and biofuels.

Improved efficiency of weed control systems with cover crops and reduced inputs of chemicals.

Conservation Tillage Adoption



Dara from Conservation Technology Information Center (CTIC).

Partners

- Alabama A&M University
- Alabama Cooperative Extension System
- Alabama Agricultural Experiment Station
- Auburn University College of Agriculture
- Tuskegee University
- USDA-NRCS
- USDA-ARS National Soil Dynamics Laboratory
- Farmers of Alabama