Our Discovery Farm Team:

Mike Daniels

Andrew Sharpley
What is a Discovery Farm?

• Real, working farms that have volunteered to help address water sustainability
• Monitor Runoff Quality for nutrients and sediments
• Monitor Water Use
• Evaluate Potential Solutions
What We Monitor On-Farm

- Runoff water quality and quantity
- Irrigation water management
- Weather – ET, Precipitation
- Soil Moisture
- Soil Health
Discovery Farm Principles

• Sound Science
• Research-based and Unbiased
• Transparent
• Stakeholder Driven / Producer Led
• Partnerships

“Address with science not emotion”
Some of our sponsors

- U of A
- Division of Agriculture
- Research & Extension
- University of Arkansas System
- Arkansas Association of Conservation Districts
- Farm Bureau Arkansas
- NRCS
- Natural Resources Conservation Service
- Our Soy Checkoff
- Monsanto
- Arkansas Soybean Promotion Board
- Walton Family Foundation
- Arkansas Rice Check-Off
- Beaver Water District
- Corn & Grain Sorghum Board
The Future with Conservation Activities 201 and 202

Three Discovery Farms will be utilized to implement 201 and 202

Tailwater Recovery

Cover Crops
Irrigation Water Management
Irrigation, Precipitation and Runoff
Field: Weaver

Date of Runoff Event

Inches

Cumulative Inputs, Inches

Cumulative Runoff, Inches

Date of Runoff Event
Irrigation, Precipitation and Runoff
Field: Weaver

<table>
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<th>Date of Runoff Event</th>
<th>Irrigation, Inches</th>
<th>Precipitation, Inches</th>
<th>Runoff, Inches</th>
<th>Cumulative Runoff, Inches</th>
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Total N Loss in Runoff in 2013
Field: Weaver

Notes:
June 13 – 20 lbs/A of N broadcast
June 17 – 89 lbs/A of N as Uran knifed in
Total Cumulative Loss was < than 1% of total N Applied

Date of Runoff Event
## N Loss in Runoff vs N applied

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<th>N-Applied</th>
<th>N Loss</th>
<th>% Loss</th>
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<td>11.4</td>
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More Conservation Tours

NRCS Chief Weller Tour

Seven State Discovery Farm

United Soybean Sustainability Tour
2014 Hypoxia Task Force Tour

• 50 members of Task Force from 5 federal agencies and 12 States toured rice farms near Stuttgart

• Water Conservation and Water Quality Protection showcased

• Allowed Farmers to tell their story to EPA
The farmers who we met the previous day provided great examples of how good agricultural stewardship can have a dramatic impact on clean water in addition to helping Arkansas’ farms prosper. They made a strong case that the farmers in the Arkansas Delta are part of the solution.”

---Ann Mills, USDA Deputy Under Secretary for Environmental and Natural Resources
Most important is farmer involvement.
.... and farmer empowerment