
WATER QUALITY EDUCATION IN THE SWEETWATER VALLEY

LOOKING TO THE FUTURE

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- Dairy producers in the Sweetwater Valley needed the opportunity to see a Certified Nutrient Management Plan (CNMP) implementation on a real working dairy farm.
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- A dairy waste management field day proposal was submitted to the Tennessee Department of Agriculture and to secure funding from a USDA/CSRESS grant through the Texas Cooperative Extension Service
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Field Day Objectives:

- Demonstrate the development and implementation of a CNMP and associated Best Management Practices (BMP's) on a Tennessee Dairy Farm
 - Provide dairy producers with information and in person contacts with organizations from whom they can obtain assistance (planning, implementing, and cost-sharing)
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- Several potential field day dairy farms were visited resulting in a 120 cow dairy selected that was located $\frac{1}{4}$ mile from the interstate
 - A 120 – 130 head dairy farm is representative of an average dairy farm in the Sweetwater Valley
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The CNMP designed for the farm included the following:

- Manure and soil testing
 - Mapping of application fields
 - Suggested yield based manure application rates
 - BMP's with potential to improve water quality
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Best Management Practices (BMP's) implemented:

- Grass waterway and buffer strip
 - Heavy use area and lane
 - Alternative water source
 - Manure equipment calibration
 - Manure testing
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- All BMP's were installed in accordance with NRCS standards. State and local NRCS personnel provided onsite technical assistance.
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Comprehensive Nutrient
Management Planning For Your
Dairy – Looking to the Future

The CNMP for the farm was the main stop for the field day



Two and half hours were taken in order to explain the development and implementation of the CNMP. We wanted producers to go home with the knowledge of at least knowing what they needed to begin the process (mapping fields, manure and soil tests, etc)



Four BMP stops were conducted following lunch under the big tent. Each stop lasted approximately 20 minutes.



Calibration of Manure Application

Equipment:

- This stop involved a hands on demonstration on how to correctly set and calibrate the application rate of liquid manure application equipment, followed by a manure and bio-solids application demonstration.
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Tractors and wagons furnished by several different farms in the area were used to shuttle 3 different groups between the stops.

Tennessee Milk Producers Association members served as tractor operators.



Manure Sampling:

- A presentation on the importance of manure sampling for nutrient analysis was followed by a demonstration on how to take a representative manure sample



Heavy Use Area/Lane & Alternative Water Source:

- A presentation was given concerning a concrete heavy use area and lane and alternative water source that were installed to help control sediment and improve water quality.



Buffer Strip & Grass Waterway:

- A presentation on the importance of buffer strips and grass waterways that were installed and seeded the previous fall prior to the field day and how they were established was conducted at this stop.



A field day proceedings and hat was given to each person in attendance at registration.



The field day was a great success with 194 registered attendees from 26 Tennessee Counties and 4 States (Tennessee, Georgia, Alabama, and Mississippi).



Field Day Partners:

- William Barr – Farm Owner
 - U.T. Agricultural Extension Service
 - Natural Resource & Conservation Service
 - Tennessee Dept. of Agriculture
 - USDA/Texas Cooperative Extension Service
 - Local Soil Conservation Districts
 - Tennessee Milk Producers Association
 - Tennessee Valley Assoc. of Farm Families
 - Synagro, Inc
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Total Field Day Budget = \$19,090

Total was made up from the following sources:

- Tennessee Dept. of Agriculture - \$12,540
 - USDA/Texas Cooperative Extension Service Grant - \$5,350
 - Tennessee Valley Authority Demonstration Farm Families Grant - \$1,200
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The following items were donated for the field day from local Ag Businesses:

- Mayfield Dairy Farms – 250 milk chugs
 - McMinn-Loudon Farmers Cooperative – tubs and ice for chugs
 - Synagro, Inc. – ½ mile of gravel for road
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Other Improvements After the Field Day



- Six grazing paddocks at the end of lane
 - New Gates and high tensile fencing
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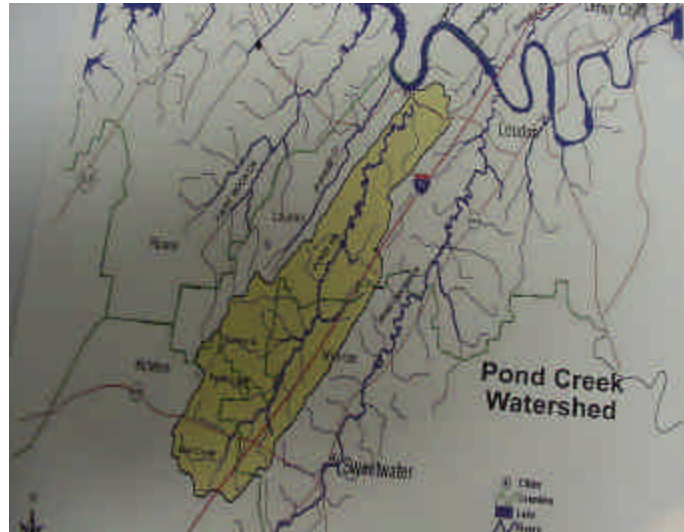
What Has Happened Since the Field Day?

- Due to the success of the field day and the partnerships formed, several Environmental Protection Agency personnel who had attended the field day became interested in other possible water quality educational programs that could be implemented in the valley.
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Pond Creek Watershed Project

- Due to EPA interest in water quality programming in the valley, a grant was submitted for funding of the Pond Creek Watershed Project.
 - A \$88,000 grant was secured from EPA to fund work for a 12 month period for Pond Creek.
 - Additional funding has also been received from the Tennessee Valley Authority and Tennessee Department of Agriculture.
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Pond Creek Watershed Project - Cont



- Pond Creek is located in the Sweetwater Valley. It begins in McMinn County and runs through two other counties (Monroe/Loudon). The Creek is listed on the EPA 303d list.
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Pond Creek Watershed - Cont



- The Pond Creek Watershed Project is in its beginning stages. A Watershed Coordinator was hired in April 2003.
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Pond Creek Watershed - Cont

- The TDA grant was awarded to support the work needed to conduct a detailed analysis of aerial photographs taken of the watershed.
 - After putting the data into a GIS format, the data was incorporated into the Integrated Pollutant Source Identification (IPSI) Model.
 - This data will help us to pinpoint problem areas in the watershed that if addressed would improve water quality and best utilize our resources.
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BMP Calendar for Pond Creek

- Funding was used to produce a 2003 Best Management Practices Calendar for Pond Creek. The calendar was given out by the Watershed Coordinator on their first visit with producers. The calendar highlights different BMP's each month.



Conclusion:

- Other grants are being pursued to continue past the initial 12 month period for the Pond Creek Water Shed Project.
 - With additional funding, the project has the possibility of being another big success in the area of water quality in the Sweetwater Valley.
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