

What is the Environmental Impact of Agriculture on our Community?



Utilizing Technology To *SOLVE*

Water Quality Issues

West Sandy Watershed Project

- ◆ 52,000 acres in Henry Co. TN

- ◆ 34,000 Forest

- 10,000 Pasture


- ◆ 8,000 Crops

- 14,000 People

- ◆ Four Tributaries

- ◆ West Sandy Creek Embayment

IDENTIFIED POLLUTION PROBLEM

- ◆ Non Point Sources
 - ◆ Complexities
 - ◆ Overall Objective
- 

PRIORITIES

- ◆ *Inform Public*
- ◆ *Develop Positive Attitude*
- ◆ *Implementation Team Approach*
- ◆ *Cooperative Agencies (\$)*

Over 200

Structural

Best Management Practices

were implemented by

West Sandy Basin Landowners

No-Till was the Rule

NOT THE EXCEPTION

Henry County, TN Soil Lysimeter Test

Gerald Bomar
Dickie Brewer
1998,1999,2000

Crop and Soil Line

- ◆ 36 inches down to Collection pan
- ◆ 48 inches farther down to Collection Jar



































Specifics of the Two Sites

- ◆ Bomar Site
 - ◆ 5 Lysimeter Pans
 - ◆ 100 ft. apart
 - ◆ Memphis Silt Loam Soil Type
- ◆ Brewer Site
 - ◆ 4 Lysimeter Pans
 - ◆ 100 ft. apart
 - ◆ Lexington Silt Loam Soil Type

TN Dept. of Agriculture Tested for :

PPM - Nitrate Nitrogen

PPB - Atrazine

Maximum Contamination Levels

Nitrate Nitrogen 10 PPM

Atrazine 3 PPB

BOMAR SITE

- ◆ 1997 - Corn 140# N
2 qts. Atrazine
- ◆ 1998 - Wheat /Soybeans 94#N-wheat
- ◆ 1999 - No-Till Corn 163# N
2 qts. Atrazine
- ◆ 2000 - Conv. Corn 163# N
1 qt.

BOMAR SITE

1997 (CORN FOLLOWED BY WHEAT PLANTED IN OCTOBER)

<i>DATE</i>	<i>NO3N</i> <i>(MCL @ 10 ppm)</i>	<i>ATRAZINE</i> <i>(MCL @ 3 ppb)</i>
01/20/98	12.70	.92
02/20/98	7.60	1.30
03/24/98 (TOP DRESSED WHEAT)	10.80	1.26
05/21/98 (PLANTED SOYBEANS)	11.80	.58
06/25/98	5.30	.66
09/14/98	.00	.12
12/09/98	8.70	.00
02/09/99	.00	.28
04/08/99 (PLANTED CORN)	.01	.00
05/26/99	4.90	9.30
07/14/99	17.00	9.00
11/16/99	2.10	1.30
04/10/00 (PLANTED CORN)	8.30	1.00
11/21/00	<u>.36</u>	<u>.00</u>
AVERAGE	6.39	1.80

BREWER SITE

1997 – CORN

OCTOBER 1ST to APRIL 15TH

BEEF CATTLE GRAZED CORN STALKS

<i>DATE</i>	<i>NO3N</i> <i>(MCL @ 10 ppm)</i>	<i>ATRAZINE</i> <i>(MCL @ 3 ppb)</i>
01/20/98	.84	.00
02/20/98	.26	.00
03/24/98	.00	.00
05/21/98 (PLANTED SOYBEANS)	.26	.04
06/25/98	.00	.00
09/14/98	.00	.00
12/09/98	14.00 (DECOMPOSING RESIDUE)	.00
02/09/99	.00	.00
04/08/99 (PLANTED CORN 190# N)	.00	.00
05/26/99	28.04	7.03
07/14/99	50.00	3.50
TURNED IN CATTLE		
11/16/99	139.00	2.70
PLANTED SOYBEANS		
04/10/00	<u>50.80</u>	<u>1.00</u>
11/21/00	.27	.00

UT Agricultural Extension Service



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2003

