

Texas Water Resources Institute

Bacteria Runoff BMPs for Intensive Beef Cattle Operations Agreement No. 68-7442-7-482

Quarter no. 7 From 4/1/09 Through 6/30/09

I. Abstract

At the beginning of this quarter, good rains provided 3 separate runoff events. Unfortunately, since April 28, no additional runoff was received. Good forage growth following the spring rains allowed a second grazing treatment to be conducted from May 22 – June 5. A no-cost extension was granted to allow for a full 2 years of data. Hopefully, good rains will begin again soon so that additional samples can be collected. Finally, work continued on development and delivery of educational materials regarding bacteria runoff and BMPs for reducing it.

II. Overall Progress and Results by Task

TASK 1: Project Coordination and Administration

Subtask 1.1: Preparation of progress reports.

The following actions have been completed during this reporting period:

- a. The Year 2, Quarter 2 Progress Report was submitted on April 15, 2009.

60% Complete

Subtask 1.2: Coordination of meetings as appropriate with project participants to discuss project activities, project schedule, lines of responsibility, communication needs, and other requirements.

The following actions have been completed during this reporting period:

- a. On April 8, May 1, and June 12, AgriLife Extension and TWRI met to discuss project activities and schedule.

60% Complete

Subtask 1.3: Submission of required financial forms every quarter (SF-272 and SF-269).

The following actions have been completed during this reporting period:

- a. As of the last billing period which ended on December 31, 2008, \$18,476 or 25% of federal project funds had been expended.

25% Complete

Subtask 1.4: Development of the final project report within 90 days of project completion.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

TASK 2: Assess Bacteria Runoff from Intensively Managed Beef Cattle Operations

Subtask 2.1: Install three (3) watershed sites at the Texas A&M University Farm in Brazos County to evaluate un-grazed, moderately stocked, and heavily stocked irrigated pasture conditions.

The following actions have been completed during this reporting period:

- a. Equipment installation has been completed and monitoring initiated on September 15, 2008.

100% Complete

Subtask 2.2: Maintain the three watershed sites and assess bacteria concentrations, runoff volume, and precipitation from each of the three (3) sites for a period of two (2) years.

The following actions have been completed during this reporting period:

- a. Maintenance was conducted on each watershed site on April 9, May 14 and 28, and June 2, 5, and 17.
- b. The second grazing treatment was conducted May 22 – June 5, 2009. The moderately grazed site received 49.43 AUD and the heavily grazed site received 108.96 AUD.

40% Complete

Subtask 2.3: Evaluate the water quality data collected throughout the project in order to develop timely and up-to-date information for presentation to producers.

The following actions have been completed during this reporting period:

- a. Runoff samples were collected on April 17, 18, and 28, 2009. The average *E. coli* concentration was 3589 cfu/100 mL at the ungrazed site, 3581 cfu/100 mL at the moderately grazed site, and 6070 cfu/100 mL at the heavy grazed site.

40% Complete

TASK 3: Technical Transfer

Subtask 3.1: Develop and deliver educational materials regarding bacteria runoff and BMPs for reducing it to agricultural producers.

The following actions have been completed during this reporting period:

- a. In September 2007, TWRI developed the website titled "Improving Water Quality of Grazing Lands." This website displays the efforts of this project and two related projects evaluating BMPs and developing education programs to address bacteria.
 - It can be found at the following web address: <http://grazinglands-wq.tamu.edu/index.php>.
 - The website was viewed by:
 - 20 unique visitors in April 2009
 - 21 unique visitors in May 2009
 - 6 unique visitors in June 2009
 - A grand total of 870 unique visitors since September 2007
 - The website will be updated as new data and information are obtained.
- b. Texas AgriLife Extension Service (Extension) continued work on a PowerPoint presentation for dissemination to the public.
- c. Extension provided an educational program in Brazos County on May 29, 2009.
- d. Additionally, Extension also presented educational materials regarding bacteria runoff and BMPs for reducing it to agricultural producers in Lee County on April 21; Polk, Tyler, and Houston Counties on April 24; Bastrop County on April 30; and Caldwell County at the annual Luling Foundation Field Day on May 21.

60% Complete

III. Related Issues/Current Problems and Favorable or Unusual Developments

- A no-cost extension was received from NRCS on March 17, 2009 to extend the project to September 30, 2010. This extension was needed due to persistent drought conditions and the limited number of runoff events that have occurred.

IV. Projected Work for Next Quarter

- Prepare and submit Year 2, Quarter 3 Progress Report.
- Submit an invoice for the billing period of 4/1/09-6/30/09.
- Conduct third grazing treatment when forage conditions are favorable.
- Continue monitoring runoff.
- Continue development of educational materials regarding bacteria runoff and BMPs.