

**Marketing Compost Manure to Public Entities
Texas Cooperative Extension
FY 01 319(h) Nonpoint Source Grant
TCEQ Contract No. 582-2-44407**

Quarter no. 6 From 09/01/03 Through 11/30/03.

I. Introduction/Abstract

Project efforts during the sixth quarter primarily focused on data collection and analysis of applied research studies in College Station, Stephenville and Dallas, following the approval of the Applied Research Studies QAPP. Acquisition of data during this quarter allowed project personnel to aggressively develop project fact sheets, educational programs and marketing efforts. Specifically, County Extension personnel were asked to initiate compost demonstrations on public grounds in association with public entities within project region. A demonstration plan was developed and submitted to Extension personnel.

Administratively, TWRI met with TCEQ to modify project tasks in an effort to address compost quality issues and compost applications at Fort Hood. Proposed amendments to project tasks will allow a more efficient and adequate use of project funds.

On the marketing side, the Upper Leon Soil and Water Conservation District Rebate Program was proposed to EPA and communication with TSSWCB was initiated to coordinate Rebate Program efforts. Although EPA did not grant approval to the Rebate Program, the Program Policy was amended to better reflect EPA requirements and suggestions. TWRI and TCE expect EPA approval within next quarter. In addition to the private producer program, TWRI continued to support the use of compost by public entities through participation in educational demonstrations at the City of Carrollton and RAA submitted articles on the use of dairy manure compost to Texas Nursery and Landscape Association monthly publication.

RAA continued to assist compost producers in product quality issues and addressed the possibility of conducting on-site organic matter studies with composters to reduce pH and increase organic matter within the composted dairy manure. Furthermore, RAA provided assistance to two compost facilities in their STA approval process.

II. Overall Progress and Results by Specific Work Task within each Phase

PHASE 1

Task 1.1 Texas Water Resources Institute (TWRI) will serve as the prime contractor for the project and provide overall administration required fulfilling the "Technical Contractor" responsibilities under the Texas Commission on Environmental Quality

(TCEQ) Composted Manure Incentive Project scope of work. Responsibilities include planning and facilitating meetings; negotiating subcontracts; submitting reimbursement documents and appropriate documentation of project progress; handling budget and fiscal reviews; adherence to Texas State Soil and Water Conservation Board (TSSWCB) and TCEQ nonpoint source management program; and ensure all activities, deliverables and tasks follow TCEQ contract provisions.

The following actions have been completed during this reporting period:

- a. Administrative tasks completed by TWRI will fall under phase II activities from this point forward.

Task 2.1 Assess the potential market, the compost product quality, existing educational and promotional materials available for a composted manure marketing project, and research and demonstration needs.

The following actions have been completed during this reporting period:

- a. Economics personnel are developing publication on the economics of utilizing dairy manure compost. Publication was submitted to TCEQ for review.

Task 2.2 Develop a strategic Compost Education and Marketing Plan (CEMP). The CEMP will include a Research/Demonstration Design Plan (RDDP) to address the research and demonstration needs and a Quality Assurance Project Plan (QAPP) to address environmental data collection.

The following actions have been completed during this reporting period:

- a. EPA approved the Applied Research Study QAPP.
- b. Following QAPP approval, TCEQ approved RDDP.
- c. Following QAPP approval, data collection commenced on all research plots at the Dallas and Stephenville locations. Plots were installed and data was collected from the soil and water quality study in College Station. All plots will be evaluated for at least 2 years to provide TCE with adequate scientific basis for compost use recommendations.
- d. TWRI personnel reviewed the Compost Quality Assessment QAPP and determined that process would be expedited if the issue was addressed as an amendment to the existing approved Applied Research Study QAPP rather than an individual document.
- e. Organics Training Program was conducted in Stephenville, TX on September 23-24 for County Extension Agents within project region. Participants received educational materials in draft form to review and edit for further development. Participants also viewed presentations from Compost Project personnel on the use and benefits of dairy compost. Training was concluded with a compost top-dress application demonstration at the TAMU facility and a tour of a local compost facility, Organic Residual Reclamation.

Task 2.3 Implement the strategic CEMP. The CEMP will provide educational outreach, technical assistance, and documented materials for compost producers and users. It will also provide for the direct marketing of composted manure. The CEMP will target both public entities and private citizens throughout the region.

The following actions have been completed during this reporting period:

- a. TCEQ approved 2 project fact sheets, "Compost Facility List" and "Compost Sampling Guideline".
- b. RAA began writing a series of articles for Texas Nursery and Landscape Association monthly magazine. RAA submitted article 1, 2 and 3 to TCEQ and TCE for review.
- c. TWRI provided RAA with contact information for public entities within project region. Original lists were obtained from Central Texas COG, Heart of Texas COG and North Central Texas COG.
- d. TCEQ submitted a letter to EPA proposing the Upper Leon Soil and Water Conservation District (ULSWCD) Rebate Program with additional requirements of compost applications must be outside of the Bosque River Watershed and only agricultural producers (CAFO and AFO excluded) are eligible to participate.
- e. TWRI developed communication with TSSWCB to coordinate ULSWCD Rebate Program with their programs to allow for the development of a TSSWCB approved Water Quality Management Plan prior to compost use. Proposed idea was submitted to EPA for approval in addition to TCEQ submitted letter.
- f. EPA did not grant approval to ULSWCD Rebate Program in this quarter.
- g. TWRI attended a compost demonstration at Mary Head Carter Park hosted by the City of Carrollton and TIBH. TWRI presented information regarding the use of dairy manure compost and the requirements and process of the Compost Manure Incentive Payment administered by TCEQ.
- h. RAA conducted a one-day compost sales and marketing training in Stephenville for dairy compost producers. Composters received a Marketing Training Manual, authored by RAA, were presented information on the basics of marketing an organic product and the potential markets in their area and were encouraged to collaborate their efforts to create a stronger market.
- i. RAA submitted a fact sheet on compost application equipment. TCE sent it to TCEQ for review.
- j. The following was reported by RAA as direct assistance to compost facilities:
 - Assisted Gustine Compost and Producers Compost to join the STA Program and provided Composters with evaluation of product analysis.
 - Provided input to TxDOT Fort Worth regions regarding various regional manure composts.
 - Met with Gustine Compost to discuss and evaluate facilities current sales strategies.
 - Completed compost sales calls with Bosque River Compost, O'Neals Compost and Organic Residual Reclamation. Specifically, RAA provided technical support to some existing customers and sold to potential new customers.
 - Visited City of Carrollton compost project sites – erosion control trials and prairie grass establishment project. Evaluated a new park site where compost could be used.

Task 2.4 Develop a project web site comprised of technical information for project cooperators, demonstration locations and research data, sources of available compost, educational literature from TCE, and facts about TCEQ rebate program and the TCEQ and TSSWCB nonpoint source management program.

The following actions have been completed during this reporting period:

- a. TWRI progress related to task 2.4 will fall under phase II from this point forward.
- b. TCE contributed fact sheets and collected photo documentation of research plots at Stephenville to be added to Web site.

Task 3.1 Provide TCEQ with assistance for quality assurance activities. Compost production sites will be evaluated to ensure sound production practices and at least 20 random site visits will be conducted to monitor uses of compost to ensure applications, BMPs and rates are made in an environmentally appropriate manner.

The following actions have been completed during this reporting period:

- a. TCE project personnel established communication with TCE County Administration to discuss the possibility for County Extension Agents (CEA) to develop dairy manure compost demonstrations at various public entity locations in an effort to promote the use of compost and facilitate the purchase of dairy manure compost by public entities.
- b. County Extension personnel in District 3 (within project region) met to discuss their role in public education on the use of dairy manure compost. Meeting was to promote Extension's involvement in organics and agents within project region (e.g. Parker County, Palo Pinto County and Stephens County) met to discuss their specific involvement the Dairy Manure Compost Project.

Task 3.2 Where existing guidance literature is lacking, reports of current and past field trials and result demonstration activities will be documented and published. All effective compost production and use aspects will be documented in draft case studies, cost analysis and effectiveness assessment reports.

The following actions have been completed during this reporting period:

- a. Project fact sheets and related information were developed and distributed to TCEQ for review.

PHASE II

Task 1.1 TWRI will continue to provide overall administration required to fulfill the "Technical Contractor" responsibilities under the TCEQ Composted Manure Incentive Project scope of work in FY 2004. In addition to the responsibilities detailed in the Phase I scope of work, TWRI will negotiate a subcontract with a Compost Marketing Firm to assist with marketing and educational tasks.

The following actions have been completed during this reporting period:

- a. TWRI attended compost filter berm study demonstration at TTI where strength and efficacy of composted filter berms are being tested as well as water quality data. Subsequently, TWRI met with TxDOT personnel, Bill Knowles, regarding the opportunity to coordinate research efforts on the use of compost.
- b. TWRI, TCE and RAA participated in a project progress meeting with TCEQ to discuss budget and task status. The following items were discussed at the meeting:
 - TCEQ suggested RAA conduct a survey of organic matter or carbon sources in the area to mix with compost to improved organic matter content. Following survey, TCE would conduct a study to identify the proper mix ratios to improve percent organic matter and lower compost pH.
 - TCE will work with area Council of Governments in providing literature and presentations on the use and benefits of dairy manure compost as well as provide information on available incentive programs. Additional items to address at COG compost workshops include the potential to create backhaul programs with municipal yard/wood waste and compost, use of compost as a landfill cover and use of compost for stormwater BMPs.
 - TCE will work with TWRI to determine how TCEQ can contribute to Fort Hood compost use.
 - TCE will work with County Extension Agents to develop demonstrations specific to public entity uses in counties within project area to further promote the use and public purchase of compost.
 - Due to delay in QAPP approval and therefore, establishment of research plots, TWRI requested a one year no cost extension to project and to facilitate adequate use of funds.
- c. TWRI personnel attended the Southern Region Water Quality Conference in New Mexico to learn about other Extension Programs dealing with water quality, specifically nutrient management. Presentations attended of value to Dairy Compost Project included: Basics of a comprehensive Nutrient Management Plan (Presenter: Mark Risse, University of Georgia); OK Litter Market and its Development (Presenter: Jason Hollenback, Oklahoma State University); Compost and Biosolids Management and Utilization I (Moderator: Rick Hirsch, Texas A&M University); How To Select the Right Compost (Presenter: Monica Ozores-Hampton, University of Florida); SAFE - Sports Athletic Field Evaluation (Presenter: Jim McAfee and Raymond Bader, Texas A&M University)

Task 2.3 Implement the strategic CEMP. The CEMP will provide educational outreach, technical assistance, and documented materials for compost producers and users. It will also provide for the direct marketing of composted manure. The CEMP will target both public entities and private citizens throughout the region.

The following actions have been completed during this reporting period:

- a. No progress to report at this time.

Task 2.4 TWRI will maintain project web site by incorporating new information from the project's success in year 2. Information added to the web site will include, but is not limited to the following: results of compost use in field trials and demonstration programs from year 2 of the RDDP; success stories of compost use as a result of the project; and recent technical information obtained from project activities in year 2.

The following actions have been completed during this reporting period:

- a. Project Web site was completely revised to better display project activities and accomplishments to date. All links were updated and Web site was revised to better coordinate with TCEQs Composted Manure Incentive Program.
- b. Map of compost facilities and contact information for each facility was added to Web site.
- c. Adobe PDF versions of 2 project fact sheets, "Compost Facility List" and "Compost Sampling Guideline" were added to project Web site.

Task 3.1 Continue to provide TCEQ assistance with quality assurance activities by conducting at least 20 random site visits to monitor the beneficial uses of compost by participating state and local government entities and assess the agencies' and users' implementation of suggested BMPs.

The following actions have been completed during this reporting period:

- a. TWRI developed a Dairy Compost CEA Demonstration Plan for participating individuals to review and approve. Following approval of the Demonstration Plan, TCE will work with CEAs within project region to develop demonstrations.

Task 3.2 Where existing guidance literature is lacking, reports of current and past field trials and result demonstration activities will be documented and published. All effective compost production and use aspects will be documented in draft case studies, cost analysis and effectiveness assessment reports.

The following actions have been completed during this reporting period:

- a. No progress to report at this time.

Task 3.3 Develop and submit annual and final joint reports of 'success stories' including assessment and feasibility of program strategies so that similar programs could develop from the provided outline.

The following actions have been completed during this reporting period:

- a. No progress to report at this time.

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

Although data collection on the applied research field studies did commence within this quarter, project personnel are still concerned about the overall status of

project tasks. Background information and research data is imperative for project personnel to educate potential compost users and to develop marketing or educational materials. Due to delay in QAPP approval, researchers only have one year of data and will not develop compost use, specifically dairy compost use, materials until adequate information is obtained (i.e. at least 2 years of data).

Additionally, TCE, RAA and TWRI are continually contacted by composters regarding the compost quality issue and meeting TxDOT specifications. Although many TxDOT jobs are being bid on the old specification, composters expect jobs under the new specification to be announced shortly and material does not currently meet these requirements, specifically the percent organic matter and the pH. Due to the inherent nature of the soil and the manure collection practices, compost producers within the Watershed will not likely ever meet the specification without a significant addition of a carbon material such as wood wastes or yard clipping. Granted, such an amendment may improve quality, it will also add to the costs of producing the material, which would further hinder market development. Compost facility location and transportation costs already pose a challenge to the compost producers when competing with other compost producers such as municipal composters.

IV. Conclusion/Projected Work for Next Quarter

The following will be accomplished during the coming quarter:

- a. Additional fact sheets will be approved by TCEQ and added to Web site.
- b. Photo gallery will be added to the Web site.
- c. Amendments to TCEQ contract will be proposed to allow for the organic matter improvement survey and study, the purchase of compost for application on Fort Hood and the participation in area COG compost workshops.
- d. Will continue to work with TSSWCB, TCEQ and EPA in obtaining approval of the Upper Leon Soil and Water Conservation District Rebate Program.
- e. Efforts will be made to assist compost producers in improving percent organic matter and reducing pH.
- f. County Extension Agents will contact public entities within their counties to develop compost demonstrations on public grounds.