

1. **PROJECT NAME:** Livestock Waste Education, Information, and Assistance Program
2. **PRINCIPAL INVESTIGATOR:** M. Bridget Johnson, Livestock Waste Management Specialist
3. **REPORTING PERIOD:** Semiannual report – November 1, 2003 to April 1, 2004
4. **PROJECT PERIOD:** July 2002 through December 2006
5. **PROJECT STATUS:** On schedule
6. **SEMIANNUAL PROGRESS UPDATE:**

Task 1 Develop and assemble educational materials that focus on location, design, and management of livestock facilities, focusing on waste management to prevent impacts on water quality.

- I am currently working on three publications relating to nutrient management and water quality. The first is a publication listing all the informational, technical and cost share resources available to livestock producers in North Dakota. This will be completed as soon as the position at the Carrington Research Extension Center is filled. Two other publications will be completed as soon as the North Dakota regulations for Animal Feeding Operations are completed. The first publication is a Producer's Guide to Livestock Waste Systems. It is a general guide designed to familiarize producers with the process of completing a livestock waste containment system. The second publication will be a summary of the ND Animal Feeding Operation regulations. The proposed regulations are over ninety pages in length. The summary will take pertinent information out of the final rule and present producers with information that applies directly to them.

Task 2 Hold meetings, workshops, and tours to educate producers and those who advise and work with producers about livestock waste management to prevent impacts on water quality. Use mass media and newsletters to inform producers and the public about efforts to reduce impacts on water quality.

- Over the past several months I have helped develop and coordinate two major educational seminars. The first was the Livestock Environmental Stewardship Workshop held in Mandan. This workshop was designed to provide subject matter training to County Agents, NRCS field staff and District Conservationist, 319 Watershed Coordinators and Technical Service Providers who work with livestock waste systems and nutrient management. Topics included whole farm nutrient management planning, animal dietary strategies for reduced nutrient excretion, manure storage and treatment, composting, land application of nutrients, air quality, emergency action plans and ND animal feeding regulations. Evaluations of the program indicated that attendees felt the amount of information in each area was adequate. However, the majority of the evaluations indicated a need for hands on training using the information provided at the workshop. I feel practical examples and an opportunity for individuals to use the information is crucial to the success of this type of programming. Future workshops will incorporate this type of activity.
- The second major program in which I was involved was the Livestock Development and Our Environment Conference held in Fargo. Bobbi Talmadge from the ND Department of Agriculture was the coordinator of the meeting and I represented the NDSU Extension Service. The meeting was designed to address issues relating to livestock development in North Dakota. Topics included zoning for agriculture, environmental perspectives, use of GIS, impact of agriculture on a state's economy, producer challenges, odor and air quality. There were over 150 people in attendance ranging from County Commissioners to individual farmers and ranchers to NDSU Extension specialists. Based on the evaluations and verbal feedback the conference was a success.
- In addition to these workshops, I was able to present information about Nutrient Management at the following locations:
 - i. Southwest Feedlot Tour, Hettinger, "Nutrient Management: A New Angle"
 - ii. Feedlot Tour, Hettinger, "Nutrient Management: A New Angle"
 - iii. Winter Ag Expo, Jamestown, "Animal Feeding Operations"

- iv. ND Feedlot School – Carrington and Hettinger, “Animal Feeding and Nutrient Management”
- v. Livestock Waste Seminar, Lisbon, “Livestock Management Strategies, Economics and Regulations”
- vi. Backgrounding In-service, Rapid City, “Animal Feeding in Changing Times”
- vii. ND Pork Producer’s Annual Meeting, Fargo, “Manure Management Course”
- viii. Water Resources Meeting, Mandan, Devils Lake, Fargo, “Livestock Waste Management Education & Assistance Program”
- ix. Spring Extension Conference, “Animal Feeding in a Changing Industry”

Task 3 Develop and deliver educational materials and programs that focus on utilization of livestock waste nutrients for crop production.

- All of the above mentioned presentations had a component that covered the utilization of livestock waste nutrients for crop production. The Livestock Environmental Stewardship Workshop, Livestock Development Conference and the ND Feedlot Schools in Carrington and Hettinger had time specifically dedicated to working through manure management problems.
- The Manure Sampling for Nutrient Management Planning publication has been completed and printed by the NDSU Extension Service. Each county in North Dakota was provided with copies and more are available upon request from the distribution center at NDSU.

Task 4 Provide technical and education support for 319 funded projects that have livestock waste components.

- The 319 Coordinators were invited to attend several of the trainings I offered. The most intensive training was the Livestock Environmental Stewardship Workshop, but coordinators also attended the Water Resource meetings held throughout the state. I have also made a direct contact to the coordinators identifying myself, my skills and my desire to assist them on livestock waste systems.
- I am also working on a “check-list” for initial site evaluations. The “check-list” will provide a way to objectively and consistently evaluate sites for the potential to pollute. Ideally, all 319 Coordinators, NRCS field staff, and others who perform evaluations, will use this as the first step to identify potential problems or areas for improvement. The “check-list” will be approved by the ND Department of Health and will only be used as a tool for evaluation as the ND Department of Health will have the final determination on the potential to pollute.

Task 5 Provide individual consultations with livestock producers.

- I am currently working with two livestock producers on their livestock waste containment systems. I have consulted on three systems from a livestock handling and feedlot design stand point. I have made several farm visits with Scott Ressler, Stockmen’s Association Environmental Services Director and Jason Wirtz, Dairy Pollution Prevention Program Coordinator, to see completed projects. In addition, I have met with Leif Anderson at the Hettinger Research Extension Center and helped set up a monitoring protocol for their water spreading system.

7. ANTICIPATED ACTIVITIES: April 1, 2004 through October 1, 2004

- Expand the Livestock Environmental Stewardship Workshop to include more hands on planning for 319 coordinators and NRCS staff. Continue training on the Nutrient Management Planner and the Comprehensive Nutrient Management Plan used by NRCS.
- Continue development of publications including, but not limited to, Producer’s Guide to Livestock Waste Systems, Resource Marketing publication, and Regulations for Animal Feeding Operations: A Summary.
- Update the Manure Application Planning Workbook and the Manure Storage and Field Records publications to reflect new research findings.
- Develop and implement a run-off monitoring system at the Dickinson Research Extension Center- Manning Ranch. This will include research on the effects of management practices on nutrient loads and run-off volume.

- Develop research projects to look at the effects of manure application on soil properties (including OM, N, P and Na levels) and the effects of application method and time until incorporation.
- Increase producer contact, project coordination and facility recommendations for livestock waste facilities.
- Continue to deliver information on Nutrient Management at educational meetings.
- Continue involvement on monitoring of the Hettinger Research Extension Center water spreading system.
- Develop a regular publication dealing specifically with livestock waste, nutrient management, management strategies to improve environmental stewardship, etc. Ideally this would be a monthly or quarterly publication that Soil Conservation Districts, County Agents and other agencies could use as a tool to deliver information to producers.
- Continue educational sessions on manure management and application. Introduce producers to the Nutrient Management planner used by NRCS.
- Increase information delivery and educational programs on composting.