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LPE Center News



June, 2007

Connecting Experts With Those Advising Producers

<http://lpe.unl.edu>

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June 15, 2007 Webcast Reminder

"Value Added Processing of Manure"
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LPE Learning Center Webcast Series

Webcast Series Takes a Break in July and August

The LPE Learning Center webcast series will not be broadcast in July and August, but will return this fall. Planning for the 2008 series is currently underway and the schedule, when available, will be announced at the LPE Learning Center [website](#).

The webcast schedule for the remainder of 2007 includes:

"Value of Manure in Energy Production". September 14, 2007. Presenters will be Jeff Porter, USDA NRCS and Kelly Zering, North Carolina State University.

"Overview of Alternative Treatments-Matching the Treatment System to the Environmental Concern". October 19, 2007. Presenter will be Robert Burns, Iowa State University.

"Vegetative Treatment Systems for Barnyard and Open Lot Runoff". November 16, 2007. Presenters will be Rick Koelsch and Chris Henry, University of Nebraska.

The webcast archive is available for reviewing past presentations. The archive contains links to individual segments of each presentation, the power point slides for each of the speakers, links to additional resources and information, and a summary of the question and answer section of each webcast. The archive is available at <http://lpe.unl.edu/archive2.html>. Real Player is needed to view the video segments.

What's Going On in the LPE Learning Center?

Value of Manure Resources Available

The manure value team has assembled a group of resources for the LPE Learning Center website. The resources include "Recommended Reading" publications, several spreadsheet tools for calculating the value of manure, with future updates to include Frequently Asked Questions (FAQs). The resources are available at <http://lpe.unl.edu/value.html>.

LPE Learning Center Expands to Ten Teams

2008 includes big plans for the LPE Learning Center as the number of issue teams working on animal manure management content will expand from four to ten. The focus of these teams will be in developing a content-rich web presence. More information about this web presence will be forthcoming in future issues. Some of the topics to be covered by these teams include, environmental planning, manure handling and storage, small farm issues, air quality, regulations, and feed management.

Vegetative Treatment Systems Research and Demonstration Resources

Vegetative Treatment Systems (VTS) are an alternative for managing runoff from barnyards and open lot animal housing. VTS have several potential advantages over holding ponds for ground water protection and odor control. Significant research is occurring to determine if a VTS can provide surface water protection equal to holding ponds. Economic and aesthetic advantages of VTS are also being explored. Some examples of that research include:

[VTS for Open Lot Runoff Publication](#)

NRCS provided leadership for a collaborative report by a team of 20 land grant universities, ARS, NRCS, regulatory, and private sector resource people. It includes the group's recommendations for regulatory compliance, siting, design, and management of VTS. The group also defined terminology to distinguish between VTS and vegetative buffers and filters.

[Chapter 9](#) of the NRCS collaborative report is a literature review that summarizes 40 research trials representing more than 100 individual data sets.

[USDA ARS Research](#)

The Meat Animal Research Center (MARC) has conducted many VTS studies. A [virtual tour](#) is available.

"MARC research indicates vegetative treatment systems can cost-effectively control nutrients in feedlot runoff while reducing or eliminating storage time and potential for malodorous emissions. Site characteristics usually dictate specific VTS design features and complexity. However, these systems have been shown to be adaptable and sustainable."

--Brian Woodbury, USDA MARC scientist

[VTS Application on AFOs](#)

Chris Henry, University of Nebraska, leads a small farm demonstration of VTS for Nebraska producers. Funded through the state's Environmental Trust Fund, multiple demonstrations of constructed wetlands, Vegetative Infiltration Basins (VIB), and conventional and sprinkler VTS systems have been installed. Several innovative approaches to runoff distribution over the VTA are a part of this demonstration program. A [video tour](#) of one site and an [LPES Fact Sheet](#) on VTS is available.

Spotlight On...

Vegetative Treatments Systems Being Evaluated for Large Feedlots

In the past, vegetative treatment systems (VTS) have mostly been utilized on small, non-regulated livestock feeding operations. An Iowa project to demonstrate, implement and model VTS at six permitted concentrated animal feeding operations (CAFOs) is in progress. All the operations maintain over 1000 head of cattle.

The technologies demonstrated include either a vegetative treatment area (VTA) or a vegetative infiltration basin (VIB)/VTA combination. The investigation will evaluate the performance of these technologies to address whether the systems are feasible alternatives to traditional basin technologies and to assess non-basin computer models for planning and design of future systems.

The objectives are to quantify contaminant concentrations and annual mass flow of nutrients from treatment areas receiving settled feedlot runoff. Results will be compared to potential annual control attainable with traditional containment systems.

Monitoring and methodologies include:

- 1) measurement of the quantity and quality of effluent entering the treatment area,
- 2) measurement of the quantity and quality of runoff leaving the receiving treatment area,
- 3) measurement of the groundwater quality beneath the receiving treatment area, and
- 4) if applicable, measurement of receiving stream water quality upstream and downstream of the site.

At this time, four sites are fully constructed and being monitored. The remaining two sites will be operational by the fall of 2007.

The CAFO sites are operating with conditional two-year permits. If the systems are shown to be effective following the two-year monitoring period, additional permits will be issued for each site. The monitoring portion of this study is currently funded by U.S. EPA, Iowa Cattleman's Association, and the Iowa Department of Agriculture and Land Stewardship. Robert Burns and Lara Moody, Iowa State University, provide leadership for this initiative.



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