NRCS
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Temporary Storage of Poultry Broiler Litter

by Bill Hughes, State Resource Conservationist, Auburn, AL

Charles Mitchell, Extension Agronomist and researcher at Auburn University, is conducting research to compare different techniques of temporary storage of dry poultry litter. The experiment will be conducted in a highly visible location at the Milstead Farm Group's cotton gin where it can be visited by many local farmers.

The purpose of the research is to document the runoff from temporarily stored broiler litter using different storage techniques. The project will also evaluate litter quality following storage and difficulties encountered during the storage period with different types of covers.

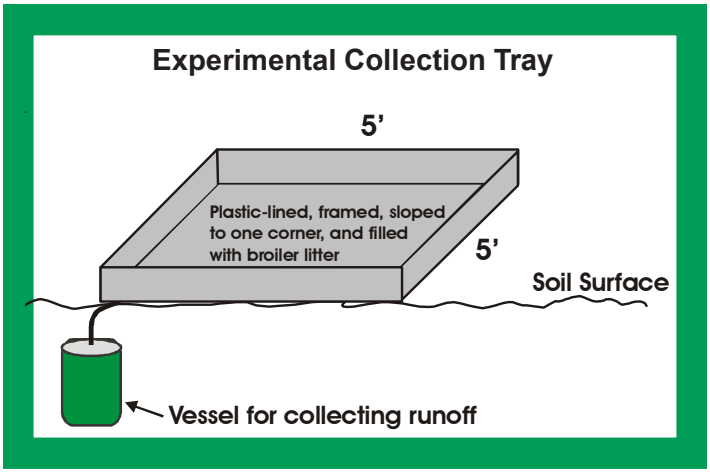
One of the main objectives of documenting the management and environmental effects of temporary storage of dry poultry waste is the interest by many Alabama farmers in spreading this resource on their pastures and cropland. This research will demonstrate to Alabama farmers the safest, most economical and efficient methods of handling and storing dry poultry litter.

Treatments to be used are:

- Six mil black polyethylene plastic weighted with old tires or concrete blocks
- Alternative covers, i.e. Western Hay Gard™
- Uncovered pile of litter—dumped, no specific shape
- Cone shaped pile of litter—shaped to shed water
- Spray-on, water resistant polymer
- Powdered polymer

Each experimental unit will be a 5' by 5' wood frame constructed from 2x6 lumber lined with 6 mil polyethylene plastic to collect runoff at one corner of the frame. Runoff will be collected, measured, and analyzed for (1) total solids in runoff, (2) total P, (3) dissolved P, (4) nitrate-N, and (5) ammonium-N.

Results will be published as an Extension Timely Information article and in other outlets as necessary. This experiment could be used to expand recommended BMP's for temporary storage of broiler litter.



CALENDAR OF EVENTS

Oct 19-20 - 2004 Alabama Grazing School, Marion Junction, AL

Oct 19-21 - Sunbelt Ag Expo, Moultrie, GA

Oct 20 - Wiregrass RC&D Annual Meeting, Louisville, AL

Oct 28-29 - TREASURE Forest Meeting, Tuscaloosa, AL

Oct 31-Nov 4 - SE Association of Fish and Wildlife, NC

Nov 8-9 - Butler/ Cunningham Conference, Montgomery, AL

Nov 8-10 - Watershed Working Lands Summit, Baltimore, MD

Nov 17 - AACD Meeting, Montgomery, AL

Dec 13-17 - NOPBNRCSE Meeting, Sacramento, CA

Feb 5-9 - NACD Meeting, Atlanta, GA

In this Issue:

Trees Cleaning Up Water - Nothing New

by Tim Albritton, State Forester, USDA-NRCS, Auburn, AL

I learned a valuable lesson recently while attending the first World Congress of Agroforestry in Orlando, Florida. I realized that in many other nations, people are using Agroforestry practices that are truly "foreign" to us in Alabama. Moreover, these practices in other countries are a matter of human survival, not just increased return on an investment.

It was a sobering experience to participate in an international conference with attendees from 82 countries. I saw the world as I had not seen it before. It prompted me to enlarge my vision of what Agroforestry can do for people on a global scale.

A field trip to an old phosphate mine introduced me to a new term — Phytoremediation. The Environmental Protection Agency's (EPA's) definition of the word is using living green plants to reduce the risk of contaminated soil, sludges, sediments, and groundwater through removal, degradation, or containment of the contaminants. Now here is a definition my redneck friends can understand better — "using trees to clean up a mess."

Will the process work? Yes, the theory has been tested. In conjunction with numerous public and industry partners, the Short Rotation Woody Crops (SRWC) demonstration area was established to test the use of trees for cleaning. A process called Phytoextraction refers to the uptake and translocation of metal contaminants in the soil by plant roots into the aboveground portions of the plants.

Florida has over 100,000 acres of closed phosphate mined lands. These lands are unused, low value, and present a potential hazard to the water supply.

How do the trees improve or "clean" the soil? I posed this question to Dr. Donald L. Rockwood, Professor at the School of Forest Resources and Conservation, University of Florida. Here is his response: "The restorative effects the trees are having on the reclaimed mined site is significant. Because of the fast growing trees, the invasive cogongrass is being controlled, and the organic matter and nitrogen content of the soils are increasing. The soils are becoming more 'natural' and conducive to native plants and even eventually to agricultural operations."

Professor Rockwood also observed, "In a broader context, fast growing trees such as eucalyptus and cottonwood can be effective in agriculture as the tree component of Agroforestry systems, windbreaks, and riparian buffers."

Visiting this mine site and seeing trees used in this way tweaked my memory. I began recalling a story I learned in Sunday school. The story reminded me that using trees to clean up water is

A row of Eucalyptus trees growing in an abandoned phosphate mine.

"The restorative effects trees are having on reclaimed mined sites is significant."

-- Dr. Donald Rockwood, School of Forest Resources and Conservation, University of Florida.

nothing new. In Old Testament, Exodus chapter 15, verses 22-26, Moses describes perhaps the first time a tree was used to clean water:

"So Moses brought Israel from the Red sea, and they went out into the wilderness of Shur; and they went three days in the wilderness, and found no water. And when they came to Marah, they could not drink of the waters of Marah, for they were bitter: therefore the name of it was called Marah.

"And the people murmured against Moses, saying, What shall we drink? And he cried unto the LORD; and the LORD showed him a tree, which when he had cast into the waters, the waters were made sweet: there he made for them a statute and an ordinance, and there he proved them. And said, If thou wilt diligently hearken to the voice of the LORD thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, I will put none of these diseases upon thee, which I have brought upon the Egyptians: for I am the LORD that healeth thee."

This story reveals a number of interesting lessons about life:

The first is that the solution to many of our problems may be close at hand. The answer could be as close as a tree. For George Washington Carver the solution to the southern farmer's economic woes was a peanut plant. Carver was able to look beyond the outer shell, discover hundreds of ways the peanut could be used, and thus provide a demand for the farmer's product.

The second is that murmuring is no solution at all, but asking the "expert" for help can generate immediate results. Many times our pride prevents us from asking an expert. We would rather murmur and complain than admit we do not have all the answers. I have a sign on my wall at work that says "It's ok to say: I don't know." This sign reminds me that I need to ask the experts sometimes.

And finally, some of our problems may be solved by cooperating with nature. Cleaning contaminated water can be accomplished in this way. For Moses and the Israelites it took a tree and a miracle of God. For the citizens of Florida it is taking years of research and thousands of trees planted. It behooves us to take care of the water we have and do our best to prevent it from becoming polluted. I have heard it said that of all the water on earth, less than three percent is fresh water suitable for drinking.

Trees are a wonderful part of the creation we all enjoy. They provide income, wildlife habitat enhancement, shade, and beauty. They also prevent soil erosion. What is more, they can be used to remove metal contaminants from the soil in abandoned mines.

My grandfather's first job away from home was working in a Florida phosphate mine. He never dreamed back then that foresters like me would one day use trees to clean the soil of those abandoned mines. As Solomon once said, "There is nothing new under the sun."

NRCS State Staff Forester Tim Albritton standing next to a three year-old Eucalyptus, over 6" in diameter.

Grassland Reserve Program 2004

by Eddie Jolley, Conservation Agronomist, USDA-NRCS, Auburn, AL

The Grassland Reserve Program (GRP) received funding for the second consecutive year. Alabama was allocated $645,000. This year $50,000 was set aside for cost-share assistance in planting native grasses. About 60 percent ($357,000) of the remaining funds was set aside for easements and 30 year contracts. The remaining 40 percent ($238,000) was designated for 10-, 15-, and 20-year contracts.

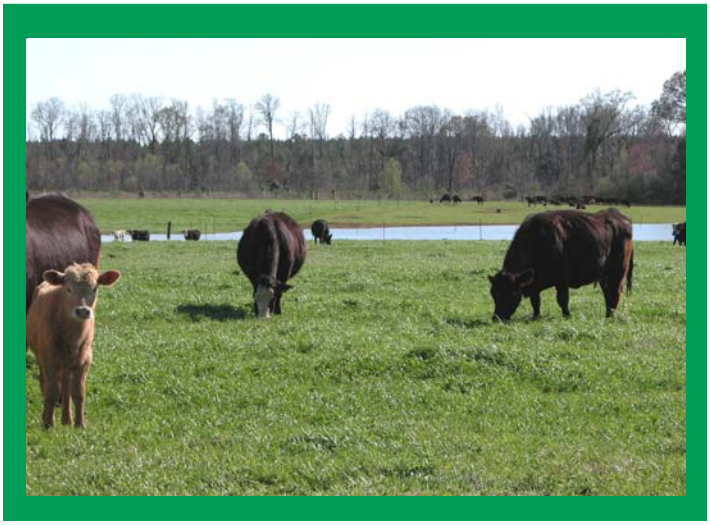
Public comments on the Grassland Reserve Program were received during the year. As a result, there have been some changes to the program, particularly on easements. First the easement deed that was to be used for 2003 easements was not released until May 2004 and has undergone more changes. As a result, no GRP easements have been closed.

Based on the draft GRP manual, evaluation criteria were different in 2004.

While conversion, grazing, and biodiversity continue to be evaluation concerns, it was their relative importance that changed. In 2003, conversion concerns were given at least 55 percent of the ranking points. In 2004, ranking points were to be more evenly distributed between the three categories. Cost factors were also included for ranking purposes.

The draft GRP manual clearly outlines objectives to first preserve native and natural grasslands and shrublands, protect them from the threat of conversion, support grazing operations, and maintain and improve the plant and animal biodiversity.

In Alabama, high priority was given to the preservation and establishment of native and natural grasslands and shrublands.



The threat of conversion continued to be significant in ranking. For the first time, cost-share assistance was offered to those approved and willing to restore native grasses.

Participation in the GRP varied across the state. Some offices did not have any applications while others had many. For 2004, in Alabama, 181 applications were submitted for GRP (see table).

Thus far, $251,080 has been obligated on eight contracts. The GRP easement is still pending appraisal and applicant enrollment. Additional funds have been requested to fund additional acres from the GRP offer.

New this year for GRP was the web-based tool for entering and ranking applications. To date, comments on the tool have been very favorable. It has been invaluable in managing GRP in 2004.

A GRP manual should be available in FY 05. The program is still evolving and as public comments are considered, changes should be expected.

Type	Number	Acres	Funds Needed
10 year contracts	131	27,797	$2,200,000
15	12	1349	268,200
20	8	576	73,000
30	18	3930	452,700
30 Yr Easements	4	765	122,000
Permanent	8	877	1,010,500

Geotextile Innovation for Mobile County Dairy

By Joyce Nicholas, Soil Conservationist, Mobile, Alabama

The Ching Dairy in Mobile County, Alabama, sits adjacent to Juniper Creek, which is listed on the 303d stream list for pathogens, nonpoint source grazing cattle. The dairy is locally owned by three brothers who are third generation dairy farmers.

NRCS, along with other stakeholders, has provided technical advice and financial assistance for innovative best management practices (BMPs). The BMPs are addressed in a Comprehensive Nutrient Management Plan which includes plans for a unique solid-waste separator. The goal is to provide a conservation system that will allow them to continue work in a growing neighborhood while conserving valuable natural resources.

- The milking pad is washed down daily with approximately 2,500 gallons of water.
- The waste is allowed to gravity flow into a 3,000 gallon septic tank.
- The pumping station (the septic tank) has two commercial grade lift station pumps.
- The waste is pumped uphill, approximately 600 feet to a Geotextile Bag.
- The Geotextile Bag sits on a concrete pad and holds the solid waste particles while allowing the liquid to seep/dewater.
- The liquid waste drains into a lagoon.
- The lagoon is designed for 5-year sludge accumulation and waste produced by 150 head dairy.
- The solids and liquid will be returned to crop land.

Ching Dairy is an example of improved waste management using innovative technology.

Concrete pad is installed to support the geotextile bag.

The bag separates solid from wastewater.

Mobile Area Water Sewer System employees install the electrical components of the collection pit/pumping station.

The pumping station is grassed and fenced.

The lagoon nears completion.