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Grundy County Conservation Update

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Inside This Issue

"Mike Comish and Grazeland Farms"

Grazeland Farms Tour

By Marggie Scott

Grazeland Farms, the Department of Natural Resources Hickory Creek AgNPS SALT-319 Demonstration Project held a fabulous tour on June 24, 2009. Grazeland Farms is owned by Mike Comish and the Farm Manager is Danny Bontrager.

The main focus of Grazeland Farms is egg production, with roughly 8,000 free range chickens on pasture. They recently built a New Zealand-style milking parlor in order to milk their small herd of Jerseys. There is a store on premises where you can purchase eggs, raw milk (1/2 gallon or gallon), sour cream, butter, yogurt and in the future, fryers.

The tour demonstrated many of the management tools funded by the grant from the Missouri DNR Hickory Creek Watershed 319 Demonstration Project to reduce non-point source water pollution. Demonstrations of alternative livestock watering and managed grazing were especially

Please see *Grazeland Farms Tour* on page 2

Grazeland Farm Tour Pics

By Heather Keith & Kathy Cassidy

Please see *Grazeland Farm Tour Pics* on page 3

2009 Poster Contest County Winners

By HeatherK

Wow…we had 266 posters to be judged for the 2009 **Dig It! The Secrets of Soil** Conservation Poster Contest. Schools participating this year were: S.M. Rissler, Trenton Middle School, Spickard R-2, Laredo R-7, Grundy R-5, and Pleasant View R-6.

"Dig It! The Secrets of Soil Conservation Poster Contest draws 266 entries!."

The posters were amazing and my 3 awesome judges spent 2 hours judging each grade in each school for placements. Then the top 3 from each grade went on to the county judging.

I would like to give special thanks to Jeromy, Christine and Jenny for all of their time spent judging, as well as all of the teachers and students who participated! This was an awesome year and I look forward to 2010!

Please see *2009 Poster Contest County Winners* on page 4

Tech Notes

Just an update on Cost Share Practice component costs for the 2010 fiscal year. The approved cost share amounts for the following practices are as listed below:

Earthwork waterway -- $2,641.96 per acre

Basin and Structure earth fill -- $2.45 per cubic yard on jobs over 2000 cubic yards/$2.78 per cubic yard on jobs less than or equal to 2000 cubic yards.

Terraces broad or narrow base with underground outlets -- $2.05 per linear foot.

For more information on these or any other cost shared components lease call or stop by our office.

***Grazeland Farms Tour from* page 1**

encouraged. Those at the tour learned of the philosophy behind Grazeland Farms methods and how successful they have become.

A special Thanks was given to Cass Fuller for the large and awesomely detailed billboard located on Highway 6, the JCA's of Jamesport for the chairs, Anna's Bakery for the delish cookies, Earth Touch Grainery for the tent.

Special thanks were given to Nathan Meservey for his hard work given to this project.

And…thank you to Mike, Danny and ALL of the staff at Grazeland Farms for your hard work, dedication and TIME!

Grazeland Farms Tour Pics **from page 1**

2009 Poster Contest County Winners from page 2

Soil Paint 1st Jaylen Neff

State Qualifier

Soil Paint 1st Jessi Westcott

State Qualifier

Soil Paint 1st McKenna Owens

State Qualifier

4th Grade 1st Rylee Berti

State Qualifier

4th Grade 2nd Brittany Wilson

4th Grade 3rd Mason Hooyman

5th Grade 1st Justus Skinner

State Qualifier

5th Grade 2nd Jodi Dickerson

5th Grade 3rd Grace Pratt

6th Grade 1st Jak Klinginsmith

State Qualifier

6th Grade 2nd Adam Kirby

6th Grade 3rd Brenda Murillo

Soil Series by Encarta.msn.com

Soil Formation

Soil formation is an ongoing process that proceeds through the combined effects of five soil-forming factors: parent material, climate, living organisms, topography, and time. Each combination of the five factors produces a unique type of soil that can be identified by its characteristic layers, called horizons. Soil formation is also known as *pedogenesis* (from the Greek words *pedon*, for "ground," and *genesis*, meaning "birth" or "origin").

Parent Material

The first step in pedogenesis is the formation of parent material from which the soil itself forms. Roughly 99 percent of the world's soils derive from mineral-based parent materials that are the result of weathering, the physical disintegration and chemical decomposition of exposed bedrock. The small percentage of remaining soils derives from organic parent materials, which are the product of environments where organic matter accumulates faster than it decomposes. This accumulation can occur in marshes, bogs, and wetlands.
Bedrock itself does not directly give rise to soil. Rather, the gradual weathering of bedrock, through physical and chemical processes, produces a layer of rock debris called regolith. Further weathering of this debris, leading to increasingly smaller and finer particles, ultimately results in the creation of soil.
In some instances, the weathering of bedrock creates parent materials that remain in one place. In other cases, rock materials are transported far from their source—blown by wind, carried by moving water, and borne inside glaciers.

Climate

Climate directly affects soil formation. Water, ice, wind, heat, and cold cause physical weathering by loosening and breaking up rocks. Water in rock crevices expands when it freezes, causing the rocks to crack. Rocks are worn down by water and wind and ground to bits by the slow movement of glaciers. Climate also determines the speed at which parent materials undergo chemical weathering, a process in which existing minerals are broken down into new mineral components. Chemical weathering is fastest in hot, moist climates and slowest in cold, dry climates.
Climate also influences the developing soil by determining the types of plant growth that occur. Low rainfall or recurring drought often discourage the growth of trees but allow the growth of grass. Soils that develop in cool rainy areas suited to pines and other needle-leaf trees are low in humus.

Living Organisms

As the parent material accumulates, living things gradually gain a foothold in it. The arrival of living organisms marks the beginning of the formation of true soil. Mosses, lichens, and lower plant forms appear first. As they die, their remains add to the developing soil until a thin layer of humus is built up. Animals' waste materials add nutrients that are used by plants. Higher forms of plants are eventually able to establish themselves as more and more humus accumulates. The presence of humus in the upper layers of a soil is important because humus contains large amounts of the elements needed by plants.
Living organisms also contribute to the development of soils in other ways. Plants build soils by catching dust from volcanoes and deserts, and plants' growing roots break up rocks and stir the developing soil. Animals also mix soils by tunneling in them.

Topography

Topography, or relief, is another important factor in soil formation. The degree of slope on which a soil forms helps to determine how

much rainfall will run off the surface and how much will be retained by the soil. Relief may also affect the average temperature of a soil, depending on whether or not the slope faces the sun most of the day.

Time

The amount of time a soil requires to develop varies widely according to the action of the other soil-forming factors. Young soils may develop in a few days from the *alluvium* (sediments left by floods) or from the ash from volcanic eruptions. Other soils may take hundreds of thousands of years to form. In some areas, the soils may be more than a million years old.

Horizons

Most soils, as they develop, become arranged in a series of layers, known as horizons. These horizons, starting at the soil surface and proceeding deeper into the ground, reflect different properties and different degrees of weathering.

Soil scientists have designated several main types of horizons. The surface horizon is usually referred to as the O layer; it consists of loose organic matter such as fallen leaves and other biomass. Below that is the A horizon, containing a mixture of inorganic mineral materials and organic matter. Next is the E horizon, a layer from which clay, iron, and aluminum oxides have been lost by a process known as *leaching* (when water carries materials in solution down from one soil level to another). Removal of materials in this manner is known as eluviation, the process that gives the E horizon its name. Below E horizon is the B horizon, in which most of the iron, clays, and other leached materials have accumulated. The influx of such materials is called illuviation. Under that layer is the C horizon, consisting of partially weather bedrock, and last, the R horizon of hard bedrock.

Along with these primary designations, soil scientists use many subordinate names to describe the transitional areas between the main horizons, such as Bt horizon or BX2 horizon.

Soil scientists refer to this arrangement of layers atop one another as a soil profile. Soil profiles change constantly but usually very slowly. Under normal conditions, soil at the surface is slowly eroded but is constantly replaced by new soil that is created from the parent material in the C horizon.

Next Newsletter the Soil Series

continues with

Soil Characteristics

Color

Texture

Aggregation

Porosity

Ion Content

pH

This excerpt was found at http://encarta.msn.com/encyclopedia_761576446_2/Soil.html

Kid's Corner – Fun Food Facts

Guess how many honeybees it takes to produce a tablespoon of honey? If you said 12, then you are right!

Each American eats approximately 22 pounds of tomatoes yearly. Over 1/2 of the tomato consumption is in the form of catsup and tomato sauce. Florida is the number one tomato producing state, closely followed by California.

More than 87,000,000,000.00 (87 billion) eggs are produced in the U.S. each year? The average person eats the equivalent of 254 eggs yearly. Eggs will age more in one day at room temperature than in one week in the refrigerator. To test eggs for freshness, place two teaspoonfuls of salt in a cup of water, then put in the egg. A fresh egg sinks; a doubter will float.

This excerpt was found at: http://content.fsa.usda.gov/fsakids/food_facts.htm

Kid's Corner – Recipe

Chicken & Cashews in Lettuce Cups

Ingredients:

- 3 Tbs low-sodium soy sauce
- 3 Tbs honey
- 2 Tbs canola oil
- 1 ½ lbs boneless, skinless chicken breasts, cut into ¾ inch pieces
- Pepper
- 2 cloves garlic, finely chopped
- 1 Tbs grated ginger
- 1 bunch scallions, trimmed and sliced
- 1 8-oz can sliced water chestnuts, drained
- ¼ cup roasted unsalted cashews
- 1 small head lettuce, leaves separated

Directions

Combine soy sauce and honey in a small bowl; set aside. Heat the oil in a large skillet over medium-high heat. Season the chicken with ½ tsp pepper and cook, stirring occasionally, until it begins to brown, about 3 minutes. Lower heat to medium and stir in the garlic and ginger. Add the scallions and cook for 1 minute. Stir in the water chestnuts and half the soy sauce mixture and continue to cook until the chicken is cooked through, about 4 minutes. Remove from heat and sprinkle with the cashews. Divide the lettuce leaves among individual plates and spoon the chicken over the top. Serve with the remaining soy sauce mixture for drizzling.

Share your recipes!

e-mail recipes to
Heather.Keith@swcd.mo.gov
please include your name!

Quick Tip – keep unpeeled ginger in a sealed plastic bag in the refrigerator for up to 3 weeks.

Hickory Creek AgNPS SALT

By Kevin Stover

Agricultural Nonpoint Source Special Area Land Treatment, ***wow*** what a mouthful of technical jargon. To begin, let's shorten it up and call it **AgNPS SALT**. Let's even do better and simply call it a SALT program. This program focuses on improving water quality on a particular watershed area. Many practices are available to assist in these efforts which help in improving water quality and evaluating the results.

Nonpoint source pollution occurs when runoff from rain, snowmelt, and irrigation water carries pollutants to streams, lakes, and groundwater, which are all drinking water sources. Pollutants such as fertilizers, pesticides, chemicals, and animal waste can wash of off farm fields. Soil erosion is a concern because many pollutants are carried along with soil particles, which settle in and lakes as sediment and impact water quality for years.

Landowners and farm operators in the Hickory Creek Watershed may be eligible to receive cost share funding for these practices that improve water quality. These practices save soil, clean the water, improve wildlife habitat and make our streams a more beautiful place to use and visit.

Areas of importance for the SALT Program areas are as follows:

Soil Erosion Practices - Soil erosion practices keep soil on farm fields or capture soil before it enters ditches, streams, rivers, and lakes,

Nutrient and Pest Management Practices - Nutrient management practices assure that fertilizer and manure are applied on fields based on soil tests that measure the nutrients already in the soil. Pest management assures that chemicals used to control pests and nuisance plant species are only in the amount needed and at a correct time to control the problem.

Groundwater Protection Practices - Groundwater protection practices are used to prevent pollutants from leaching through the ground into drinking water supplies.

Irrigation Practices - Irrigation practices are used to reduce the quantity of water necessary to grow crops, apply the water so it is evenly distributed, and reduce the amount of water lost through leaching and surface runoff and as a method to control fertilizer application to the crop.

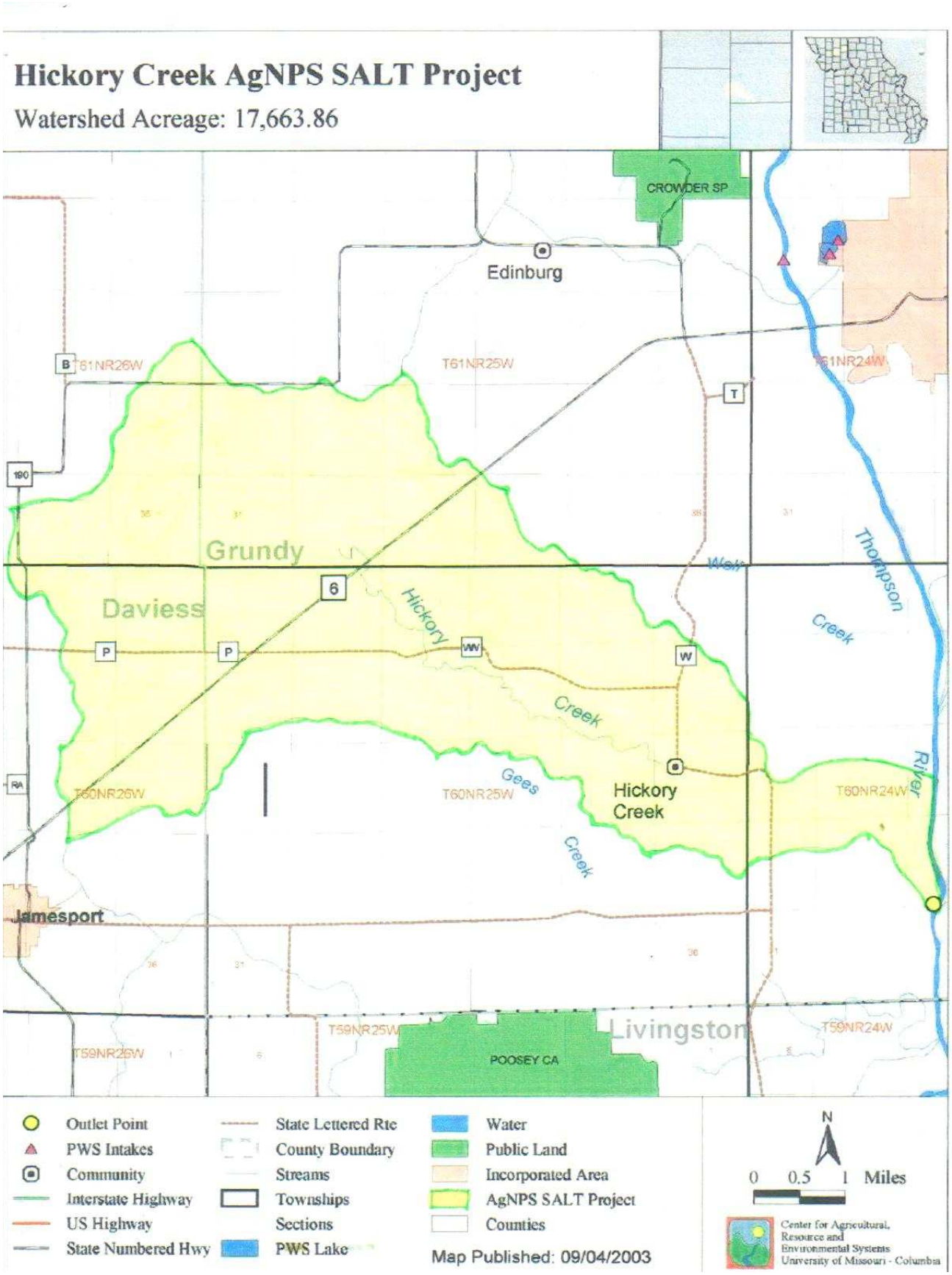
Grazing and Pasture Improvement Practices - Grazing and pasture improvement practices keep grass and haylands in good condition so the ground is well covered to slow surface runoff, prevent soil erosion and absorb excess water.

Stream Protection Practices - Stream protection practices prevent animal manure and urine from being deposited directly into and adjacent to streams, and stops trampling and erosion of streambanks.

Animal Waste Practices - Animal waste practices keep nutrients and pathogens in manure and urine from reaching streams, lakes, and rivers.

For more information on all the Cost Share Practices that are available to the landowners in the Grundy County AgNPS SALT Program for the Hickory Creek Watershed, call or stop by our office or for a copy of publication PUB001338 with additional details.

Map of Hickory Creek Area



Mission Statement

The purpose of the Grundy County Soil and Water Conservation District (SWCD) is to construct and carry out a complete soil and water conservation program on all lands within Grundy County, Missouri. The district supervisors will work with all individuals, organizations and agencies interested in saving, maintaining and improving soil and water resources within the district.

2009 Upcoming Events

Holiday Closings

July 2009

3rd – Independence Day

September 2009

7th – Labor Day

SWCD Board Meetings

July 20th - 9:00 am

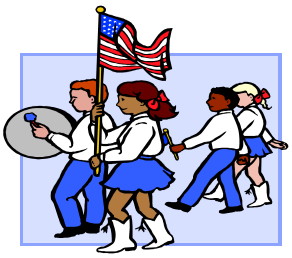
August 17th - 9:00 am

September 21st - 9:00 am

Board Meetings are held at the USDA Service Center 3415 Oklahoma Avenue

All meetings are open to the public with the exception of executive sessions. If you wish to be on the agenda please notify the District prior to the meeting.

Happy Holidays to you from the Staff!



conserving natural resources for our future

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