

Our Mission:

To provide water quality education and funding for cost effective clean water projects that improve the North Fork Ninescah Watershed which feeds Cheney Lake.

H2info

CHENEY LAKE WATERSHED, INC.

SPRING 2009

Cows, Grass & Milk

By Howard Miller

Glass Springs Dairy along the banks of Red Rock Creek is home to Jacob Beachy and his family. In 1999 when the Beachy family moved to the dairy it was a conventionally tilled farm where the feed was harvested and hauled to the cows. Today, Jacob and his wife Luane and 5 children have converted the farm to place where the land is covered with a growing crop most of the time and the cows spend their days grazing in the fields. The 45 Jersey cows on Glass Springs Dairy spend spring and summer grazing on orchard grass and alfalfa. Jacob likes to keep his soil covered with a growing crop as much of the year as possible. He says it cuts down on erosion and the roots provide a path for the water to infiltrate the soil. This allows him to store the moisture in the soil where he harvests it with the roots of growing plants. In the winter the milking herd grazes rye and triticale. Across Red Rock Creek, on the other bank,

his dry cows and replacement heifers graze on orchard grass and clover. The replacement herd has spent the past winter grazing 20 acres of stockpiled orchard grass and clover with a small amount of grain supplemented. Jacob



Jacob Beachy's Dairy Farm

uses an intensive approach to fencing paddocks on the 85 acres of land used for the milking herd. He makes the areas small and moves his animals often, only leaving them in an area one day before moving them on. Jacob realizes that a readily available source of water is one of the factors that limit his success with grazing. With that in mind he is developing a watering sys-

tem that will eventually reach every paddock with a source of water for his cows.

In the past all of the milk was marketed through a cooperative and hauled to a processing plant. But today a portion of the milk is marketed directly to the consumer. Glass Springs Dairy has both fresh and frozen raw (unpasteurized) whole milk available. In addition, they have eggs, grass finished beef, an assortment of canned jellies and vegetables that are available for purchase on their farm. Jacob believes that by having their cows out in the field grazing they can assure the consumer a quality product. He also likes the fact that his cows are cleaner and healthier than when they were confined to a dry lot. Another benefit is that it is a way for Jacob to control feed costs and remain competitive. His milk cows only receive 10 pounds of soy hull pellets and free choice minerals. The rest of their ration comes from what they graze in the field. Only on a few of the coldest days in the winter

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AND I THOUGHT IT WAS JUST DIRT

By Bob Carlson

Kingman County Conservation Specialist

*“a single
tablespoon of soil
can contain 100
million bacteria,
nearly a mile of
fungal filaments,
thousands of algae,
many protozoa cells
and hundreds of
beneficial
nematodes.”*

Dry dirt creates the dust creatures like spiders, ants, eaten by other bacteria we cuss on a windy day and earthworms. Each and the process starts over and muddy soil we cuss these critters has a part in again. What may seem as when the pickup is stuck. many transformations of a chaotic jungle is just another day for the unseen plant and animal materials other denizens of the soil and into organic matter that later where survival of the fittest releases nitrogen and phosphorus which becomes food rules. And in every case, granted all the creatures for the plants that are growing the digestive process and and dead plant and animal materials that are ing in that soil. the waste produced from it mixed in with the silt, clay Researchers have found helps to regenerate the and sand we walk on that a single tablespoon of the nitrogen release necessary each and every day. soil can contain 100 million for plant growth. While it is true we cannot bacteria, nearly a mile of The use of no-till techniques reduces the destruction of the homes of the above named creatures and allows them to see anything except soil fungal filaments, thousands maintain soil fertility. Also, and the straws and stems of algae, many protozoa the chambers and holes created by them allow air and water to infiltrate the soil so their lives can be relatively undisturbed. In other words, our soil is home to large numbers of little critters that just by living are adding to the fertilizer and doing the tillage for us. So let's not destroy their homes by plowing and discing.

Most of us just take for granted all the creatures for the plants that are growing in that soil. While it is true we cannot see anything except soil and the straws and stems from last years crop, there is still a multitude of miniscule critters and materials mixed into soil we are walking on. Research has found that our soils have been invaded by many forms of life that contribute to the productivity of those soils. This invasion comes in the forms of protozoa such as bacteria, fungi, algae, and actinomycetes. These minute animals include springtails, and rotifera as well as larger

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does Jacob need to feed his cows some silage and dry hay to maintain his production level. Jacob says he much prefers to spend his days walking in his fields opening and closing gates to burning diesel fuel and wearing out his farm equipment

harvesting feed for his livestock. Jacob understands that it's important to think about the downstream neighbor, Wichita, and their need for clean drinking water. Jacob's understanding of how what he does on his farm affects those down-

stream has led him to do numerous conservation practices in cooperation with the Cheney Lake Watershed. Jacob enjoys fishing in Cheney Lake as his schedule allows and he feels good knowing he is doing his part to clean up the lake.

Cows, Grass & Milk

***Continued from pg

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Bank Erosion – How Much Do We Lose and What Does It Matter?

By Lisa French

Imagine hundreds of dump trucks filled with soil that have lined up at a Cheney Reservoir boat dock. The trucks take turns backing to the edge of the lake, lifting their beds and dropping their loads of topsoil in the water. Something not too different from this happens several times a year as sediment from fields and streambanks is carried by rain and floodwater to Cheney Reservoir.

In 2007, Dr. Barry Southerland from the West National Technology Center of NRCS, released a report on bank erosion in Cheney Lake watershed. Extensive analysis during 2006 and 2007 showed that approximately 13% of the sediment particles that are suspended in the river originate from streambanks. Suspended sediment typically includes soil particles smaller than 0.5 millimeters. Larger sand particles settle out quickly, shifting downstream over a period of years, eventually creating a delta at the mouth of the reservoir. But the smaller clay particles travel downstream quickly and don't settle out until they reach the lowest end of the reservoir. These small soil particles are responsible for the transport of nutrients and other chemical constituents that adversely affect water quality. Sand can be reclaimed more easily from the upper end of the reservoir and used for beneficial purposes. The fine sediment or "mud" in the lake bottom is another matter.

As a follow-up to the 2007 report, Dr. Southerland has been working with watershed staff, landowners and farm operators to verify some of the assump-

tions in the earlier report – namely a measurement versus an estimate of the amount of bank that erodes each year. In the fall of 2007, at ten sites in the watershed, we established sets of pins driven horizontally into the bank. In the fall of 2008, we returned to each site to measure the length of each pin that is now exposed where the bank has eroded. Using these measurements we can calculate the amount of bank erosion at our ten sites. At one severely eroded site in 2008, we lost at least 685 cubic yards of bank – the equivalent of 69 dump trucks.

Our measurements will continue in 2009 and beyond but we already know that our streambanks may be contributing more than the estimated 13% of suspended sediment – perhaps more like 20%. Even so, a greater amount of sediment is coming from cropland sources. And from watching the changes in our sandy Ninnescah banks, we understand the difficulty and expense of stabilization efforts. Our efforts to reduce sediment in the reservoir may be most effective if we put our time and money into reducing cropland erosion.

What We Learned:

- Stabilization of sandy banks is difficult and expensive.
- Management of the areas along streambanks can have a big impact on bank stability – from the way we manage livestock to the attempts we make at changing the stream.
- Cropland contributes the largest share of sediment (60-85%) in our watershed.
- Reducing cropland erosion may be more cost effective than stabilizing sand banks.



Howard Miller, Dr. Barry Southerland (NRCS), and Tom Cyre (NRCS), measure bank loss on Goose Creek in September 2008.

News from the Annual Meeting

An election for three CMC members was held during the February annual meeting of the Cheney Lake Watershed. The CMC members whose terms expired were Allan Grilliot, Steve Westfahl and Brent Oatney. The candidates running unopposed were Allan Grilliot, Brent Oatney and Roland Elpers. All candidates were unanimously approved. The members will serve a three year term of office.

The program for the meeting was a presentation on watershed research including precipitation patterns in 2008 and streambank erosion studies. Jerry Blain, superintendent of Production and Pumping for the City of Wichita, reflected on the history of the watershed project noting that this effort has received national and even international attention for the unique partnership between Wichita and a group of farmers. Jerry Blain will be retiring in April 2009 when he will be replaced by Debra Ary who was also in attendance at the meeting.

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Upcoming Workshops

Grazing Management Workshop

Thursday, March 5, 2009

Workshop and Panel 12:30 – 3:00 PM

*The How's & Why's of
Grass Finished Beef*

Speakers: Bill Philips - El Reno, OK
Local Rancher Panel- Darrin Unruh, Jim
French and Jim & Torrey Ball

Residue Management Workshop

Thursday, March 12, 2009

Workshop 12:30 – 3:00 PM

*No-Till farming with Cover Crops
and Livestock Grazing*

Speakers: Kevin Wiltse - Great Bend, KS
Lyle Frees - NRCS, Salina KS

Both of these events will be held at:
The Lumber Yard in Pretty Prairie
100 Block East Main
Chili & Pie at Noon for 40 people

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