CWF FARMER PROFILE:

Joe and Amy Schmitz

Marshall County
Lower Big Blue Watershed

By Connie Pantle

Axtell, Kans.—"Milking this many cows in the bend of a creek" creates many concerns for Joe and Amy Schmitz, Axtell. Joe and Amy, who milk 70 cows, worry about runoff reaching the intermittent stream running behind the dairy farm. Three miles downstream it runs into the north fork of the Vermillion River, a tributary to Tuttle Creek. To specifically address these concerns, the Schmitzs completed the River Friendly Farm Project (RFFP) environmental assessment through the Kansas Rural Center's Clean Water Farms-River Friendly Farm Project (CWF-RFFP).

Amy said she first became aware of the River Friendly Farm Project (RFFP) in KRC's Rural Papers. When reading about the CWFP-RFFP, she said she thought "All those ideas appeal to me. Why can't we try that?"

Once they completed the RFFP, Amy said they prioritized the water quality issues on their dairy farm. "It made us sit down and set goals," she said. The RFFP highlighted the top priorities for the Schmitz family, including household waste; livestock and milk barn waste; containment or filtering of lot runoff, and abandoned wells.

"We've accomplished a lot since completing the (RFFP) notebook," Joe said. They plugged two abandoned wells and installed a new household septic system. The couple also applied for and received a Kansas Agricultural and Related Waste Control Permit through the Kansas Department of Health and Environment (KDHE) to cover the livestock including the 70 milking cows, 100 replacement heifers, 15 bulls, calves and the family horses.

A replacement heifer on the Schmitz Dairy Farm near Axtell. The Schmitz family implemented many Best Management Practices (BMPs) to address water quality concerns on their farm. An intermittent stream runs behind the dairy (shown in the above photo) and the couple wants to protect it.

Photo by Connie Pantle

Water Quality Concerns:

- Household waste
- Livestock and milkbarn waste
- Containment and/or filtering of lot runoff
- Abandoned wells

Best Management Practices Implemented:

- Installed downspouts and guttering on outbuildings
- Replaced milk barn waste lagoon
- Installed a manure pit
- Implemented a livestock waste management plan (spreading the manure when it can be incorporated into the soil)
- Planted grass buffer strips
- Reshaped and fenced lots

The RFFP also pointed out the need for soil testing on the Schmitz farm. Amy said after completing the soil testing they were able to cut the fertilizer bill by applying only the amount of nutrients needed.

To address the remaining priorities, they applied for cost-share through KRC's CWF-RFFP and through the Marshall County Natural Resource and Conservation Service's (NRCS) Environmental Quality Initiative Program (EQIP). Both cost-share grants addressed the water quality issues of livestock and milk barn waste and containment of lot runoff.

Because the couple tries to raise crops to support the dairy, they grow what they feed. To utilize the livestock waste on the 400 acres of hay and pasture, the manure pit is a huge asset to the whole farming operation. Amy said "you can put the manure where you want it, when you want it." She said before installing the pit, Joe was hauling manure at least once a week, year round in all types of weather. Amy said using the manure in the nutrient management plan was something they knew they should improve, but the RFFP made them make it a goal.

"Now the manure can be hauled when it is best able to be incorporated into the soil which minimizes runoff and maximizes nutrient utilization," Amy said. EQIP assisted with the cost-share for the manure pit while the CWF-RFFP funded the safety rail around the pit, as well as concrete from the freestall buildings to the pit. Now the manure can easily be scraped into the manure pit from the freestall barns where the cows loaf in between milkings.

Another water quality issue Joe and Amy addressed with CWF-RFFP cost share was the runoff from the building roofs crossing the lots and becoming contaminated, then entering the creek. They installed guttering and the water was rerouted straight to the creek without being contaminated by the livestock waste.

The Schmitz Dairy operation outgrew the original lagoon, which collected milk barn waste. Therefore, the smaller lagoon was replaced with a new, larger lagoon. The new lagoon was constructed next to the old site which was filled in and seeded along with an adjacent buffer strip. The new lagoon will be drained once and year and the waste will be applied to the fields. CWF-RFFP cost share was approved to drain and dredge the old lagoon as well as purchase the equipment for dewatering the new lagoon and fencing around it.

CWF-RFFP cost share was also used to plant grass buffer strips; install fence around the lagoon; reshape heifer and bull lots to divert runoff through buffer strips, and install fencing on those lots.

The new manure pit on the Schmitz Dairy allows Joe Schmitz to scrape manure from the free stall barns into the pit. Then he is able to spread manure when it can best be incorporated into the soil. *Photo by Connie Pantle*

Guttering was installed on the freestall barns and the water was directed straight to the stream behind the farm. This prevents the water from crossing the lots and becoming contaminated. *Photo by Connie Pantle*

Amy said the best thing about the completing the RFFP and applying for cost-share through the CWF-RFFP was the people that came out and provided help and ideas. Joe said they provided good advice. "The more we talked about it, the more we learned," he said.

The couple's most recent project includes a demonstration project through the Tuttle Creek Watershed and Restoration and Protection Strategy (WRAPS). Joe has been involved in the Tuttle Creek WRAPS since last fall and became aware of the possibility of a demonstration project in February.

The project includes stabilizing an eroding streambank near a barn and silo. "Joe has always wanted to do it," Amy said. She said the WRAPS

demonstration project allowed him the opportunity to do it with the assistance of experts. Kansas State University Watershed Specialist Mike Christian asked Charles Barden, Extension Forester for KSU, to help solve the erosion problem along the Schmitz's creek.

So in mid-March, Barden, along with three KSU students, helped Joe stabilize the bank using a cedar tree revetment. "A red cedar revetment is labor intensive, but can be installed without heavy equipment disturbing the site and being driven down the stream." Barden said. He said the revetment uses special duckbill anchors, driven three feet deep into the bank and attached with steel cable to the cedars. "The cedars deflect the current from the edge of the bank, and help filter out sediment from high flow or flood waters. The dense branching pattern and foliage of pasture grown cedars make them ideal for this use. Other species can be used but cedars are the best," Barden said. The cedars were readily available for Joe, as he cut the trees from a neighbors pasture.

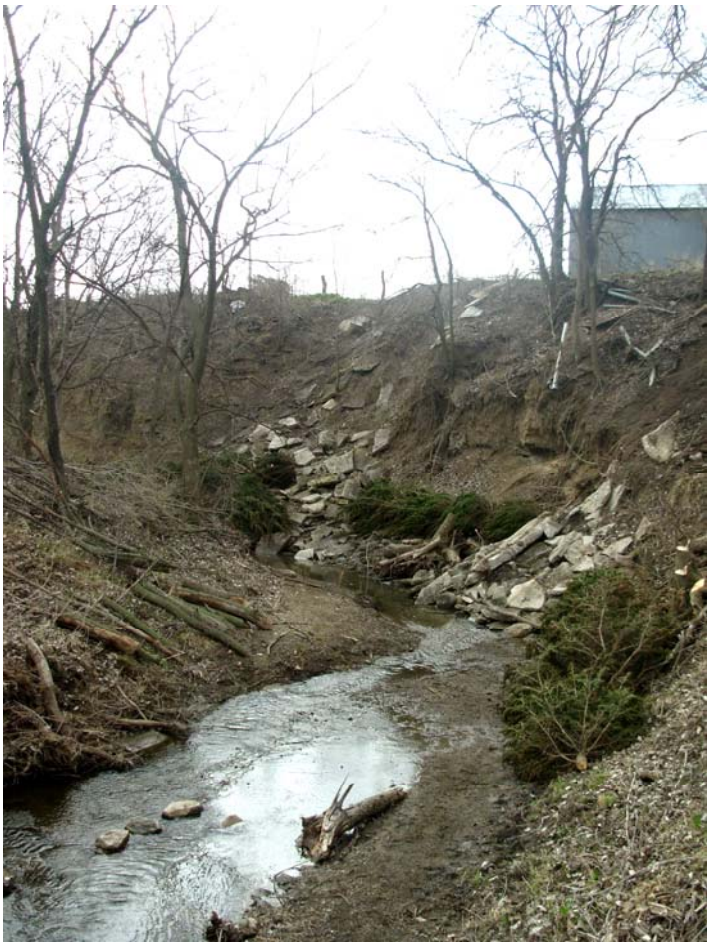
The six Schmitz children participated by assisting with the willow tree cuttings. The willow cuttings were placed into the bank and will develop into new willow trees. "The willow cuttings will sprout roots to hold the soil, and grow multiple stems and branches which will slow down the flood waters and protect the bank as the cedar foliage gradually wears away," Barden said.

"It is a lot of hard work," Joe said. He said he looks forward to seeing the project take shape and see how the dirt will settle in around the cedar trees. Barden said hopefully this will not have to be done again in this site. "Sometimes a little maintenance is needed over the first year or two like when a cedar gets torn out by flood waters or ice. Then a replacement should be installed," he said.

Amy and Joe credit the RFFP for helping them make the appropriate water quality changes on their farm. "Now that we've accomplished most of our goals, we'll need to do (the assessment) again," Amy said.

As part of the revetment, Briane Coomes, Tyler Hamman, Joe Schmitz, Ben Davis, and Charles Barden (left to right) drive a duckbill anchor into the stream bank. The anchors will hold the cedars in place using an attached steel cable.

Photo by Connie Pantle



Above is the erosion that is taking place on the Schmmitz's stream. Charles Barden said he and the team moved this concrete in an attempt "to cover the "toe" or bottom of the streambank." "By stopping the lateral movement of the creek, the vertical slope above it can begin to revegetate." he said.

Photo by Connie Pantle