Ardell and Scott Kufahl Pottawatomie County

Alternative Livestock Watering System

Cooperator:
Ardell & Scott Kufahl
21080 Clear Fork Rd.
Wheaton, Ks. 66551

Watershed:
Vermillion

Water Quality Concern:
Livestock traffic to water sources caused loss of soil cover and erosion; concentration of animal wastes in wintering lots

Demonstration:
* Develop alternative water system of buried waterline & tank
* Alter management of grass to extend grazing season & reduce time cattle spend in lots

For Ardell Kufahl and his son, Scott, the Clean Water Farms Project was an opportunity to continue transforming part of their farm into a management intensive grazing system. At the same time, Ardell was able to address some troublesome areas that were contributing to a water quality problem for his farm and possibly for others downstream.

Since 1993, the Kufahls had been using rotational grazing to make better use of the forages on their farm. At the time of Ardell's CWFP application, cattle were traveling along lanes from grass paddocks to the farm pond for water. As expected, the traffic prevented the growth of vegetation around the pond and in the lanes. Cuts were beginning to develop in the lanes even though they had only been established for a few years. Runoff water from the lanes and around the pond was carrying bacteria, nutrients, and sediments into the pond. In addition, cattle lounging or standing in the pond were making a direct contribution.

Ardell and Scott also realized that all this back-and-forth travel meant less than ideal utilization of the grass paddocks. Cattle that were walking weren't eating and the forage in each paddock wasn't being grazed evenly.

A look at the entire farm operation revealed a few other areas in need of attention. Ardell and Scott were concerned that the cattle were spending too much time confined to a dry lot for winter feeding. Besides the need for extra labor to feed them and the increased possibility of disease, they knew that the manure was concentrated in one place and could be a source of bacteria and nutrients contaminating surface water. Elsewhere on the farm, particular hills were prone to soil erosion, threatening surface water with sediment and nutrient runoff.

The Kufahls developed a plan that would address all these concerns and give them a more efficient grazing system for their cattle. The key was to establish a watering system that would provide water in each paddock. Additional grass planting and fencing would complete the plan.

Over the next four years, the Kufahl family worked steadily to implement their demonstration. They began trenching for the water line in the spring of 1997. The rocky soils on their farm prevented the use of a trencher and they had to hire a backhoe instead, making the work more complicated and costly. This work continued through the following years until completion in the fall of 1999.

Portable low cost water tanks to provide water in each paddock were critical to addressing the soil erosion and water quality concerns in the Kufahl's grazing system.

The Kufhals also planted 24 acres to Eastern gamagrass, a perennial warm season native grass known for its high productivity and palatability. Because of its ability to establish deep roots and use available fertility, many believe it is a good candidate for filter strips and buffer zones along creeks.

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The Kufahls have hosted tours of their grazing and watering system, happy to share the problems they've run into, as well as their successes.

Once water was established in the paddocks, the Kufahls could stockpile grass for winter grazing instead of using the lots for winter feeding. Previously established cool season grasses in the paddocks will not need to be fertilized with commercial fertilizer since the cattle will be recycling the nutrients as they graze.

The plan also called for a sloping, hillside field to be converted to brome grass. In the spring of 1997, the Kufahls interseeded brome in the existing alfalfa. Perverse Kansas weather prevented a good stand so they tried again the following year with a no-till drill. The germination in 1998 was good but the new seedlings were unable to compete with the established alfalfa during a dry
summer.

The next step for this field may be to try Eastern gamagrass which they have successfully established elsewhere on the farm. As part of the matching resources for the demonstration project, the Kufahls planted 24 acres of Eastern gamagrass for hay. Its quality and productivity have made it a favorite of the cattle and the Kufahls. They have been pleased to find this native grass re-establishing itself within their native range as a result of a grazing pattern that allows rest periods for favorite forages.

The Kufahl's demonstration plan also called for additional fencing to create more paddocks and to fence the newly seeded areas. The work is complete except for the area still to be established in a permanent forage.

The Kufahls have been quite pleased with their project. As Ardel says, "We didn't waste any time. It took us a long time to complete but we were able to do the work as we had available time." He feels the changes in grass, soil quality, and water protection are all a result of working to improve the overall function of the farm.

Eastern gamagrass should never be grazed or mowed below six to eight inches, as the grass stores most of its plant reserves in the crown. Grass specialists say that after the grass is well established (within 3 or 4 years) cuttings may yield four to eight tons per acre depending on fertility and management.

Kufahl Farm Characteristics

Farm Size: Own 620 A., rent 1200 A. (450 A. cultivated, remainder in grass).
Crops: soybeans, wheat, milo, alfalfa, turnips, Eastern gamagrass.
Livestock: cattle (seedstock and commerical), Registered Gelbvieh and Angus.
Equipment-tractor, balers (round and square), bale carrier, swather, combine, drill, row planter, manure spreader, disc, field cultivator, sickle mower (for prairie hay).
Seed Varieties and Rates: Soybeans - Micogen 50-60#/a ; Milo - Micogen; Wheat - Jagger 1.5 bu/a Alfalfa - Micogen hybrid 10#; Gamagrass - Pete 8#.
Labor & Management Practices: primarily family labor.
Livestock Management Practices: MIG; fall - cows go on a stalk field or on stockpiled grass Does not generally feed hay until January.
Marketing: Grain goes to the elevator, calves to the livestock auction.
Weed Management: Crop rotations, cultivation, herbicides for milo and beans.
Insect Management: Crop rotations.
Disease Management : Crop rotations for crops; calfhood vaccination; no worming
Good mineral program with CTC during the summer for eye problems.
MIG also helps reduce fly populations since the cattle aren't standing in the pond or under trees. Also the herd moves from an area before the fly population can build up.
Soil Fertility: Use of alfalfa for some fertility ; Nature's as a starter fertilizer - a 28% liquid with no salt ; Does not use anhydrous. Periodic soil testing.
Crop Yields: Beans 25-45 bu/acre; Milo 70-100 bu/acre; Wheat 30-50 bu/acre; Gamagrass 3-4T/a on hill ground with 50# N.
Water Quality Management: Conversion of some cropland to grasses; Use of MIG & new watering system to reduce erosion and run-off around watering points.
Profitability Indicators: " I review the operation at the end of the year. Our general philosophy is to stick to the same things in order to ride out the fashions. The bottom line is that I'm still here."