

Tour Participants Learn about the Benefits of Irrigated Pasture

By North Dakota Irrigation Association and Morton County Soil Conservation District

More than 80 tour participants learned about the value of irrigated pasture during one of the stops at Ken and Bonnie Miller's Ranch near Fort Rice in August. The Sand County Foundation, in partnership with the North Dakota Grazing Lands Coalition, North Dakota Association of Soil Conservation Districts and the North Dakota Stockmen's Association, sponsored the tour featuring the

Millers, recipients of the 2017 North Dakota Leopold Conservation Award®, which honors North Dakota landowner achievement in voluntary stewardship and management of natural resources.

Although one traditionally thinks of high-value crops and irrigation, the Millers have found a way to make irrigated pasture profitable. The Millers focus on



Ken Miller and Joshua Dukart lead the August tour.

Top: Tour participants gather in native pasture near a solar-powered watering system.

Middle: Tour guides demonstrate how cover crops improve soil health.

Bottom: Miller grazes 155 cows on three acres of irrigated pasture.

holistically managing all of their ecological, economic and social resources. They intensively and strategically manage their native rangelands and tame grasslands and perennial seeded irrigation pivots with grazing, focusing on short grazing periods with high stock density, followed by long recovery periods. In addition, they use low disturbance planting methods, cover crops and managed livestock grazing to create cropland soil that thrives on minimum inputs. The Miller Ranch frequently hosts educational outreach events, and Ken has travelled around the world to share his experience with others.

The Leopold Conservation Award, given in honor of renowned conservationist Aldo Leopold, recognizes extraordinary achievement in voluntary conservation. It inspires other landowners through examples and provides a visible forum where farmers, ranchers and other private landowners are recognized as conservation leaders.

“You will not meet a more passionate yet quietly humble farm family than the Millers,” said Joshua Dukart of Seek First Holistic Solutions, who helped lead the tour. Their land and social ethic personify exactly what the Leopold Conservation Award is all about, and their willingness to share and educate others exemplifies their contribution to agriculture and society.”

To understand and truly appreciate the conservation ethic that is instilled in Ken and Bonnie Miller and their family, one must visit with them. After the tour, participants understood that nearly every aspect of their diverse operation and life has one goal in mind – giving back to the land and the people around them.

In 1984, Ken and Bonnie Miller were sponsored by the Morton County Soil Conservation District to attend a Holistic Resource Management School in Albuquerque, N.M. As Ken put it, they were broke, something needed to change and \$1,800 was a lot of money to spend back then, so this sponsorship meant a lot. At the school, they were questioned about their land management. It was here they started to realize their current management had little reasoning behind it beyond the fact that it was “the way things were done.” This had a profound effect on the Millers as they realized that if they continued to take



from the land, it would eventually stop giving back.

In the first year after the class, the Millers used cross-fencing to turn their three existing pastures into 18 to allow for more recovery time on the grassland. Through this new management method, they learned much about managing for the “whole” operation. It included understanding that conservation was about managing for ecological and economic health and quality of life simultaneously to avoid creating unintended consequences. They also learned to be very observant of what was happening with the land since their ranch is located on some of the most erodible landscape in Morton County.

Some of the other changes that followed were moving the calving date to later in the spring, cutting back and eventually eliminating tillage of their cropland, and diversifying their crop rotation. All of this was done with one goal in mind – to mimic and work with Mother Nature.

The family strongly believes that soil makes up the foundation for everything they can accomplish in agriculture. According to Ken, “it’s the water and the herd under the ground that we need to be managing.” As the family began focusing on building up the soil biology, the plants became healthier and resilient, giving their cattle more nutrition, which in turn produced healthier cattle.

Fast forward 30 plus years and the Miller’s operation still strives to improve the land, which now thrives, while helping others do the same. The 2,000-acre operation now consists of more than 60 paddocks on the tame and native grasslands, with 18 more paddocks under a center pivot irrigation system. Ken often comments, “we now leave more grass at the end of the grazing season than we ever used to grow,” all while increasing the carrying capacity of the ranch threefold.

Ken says the more diversity in grasses the better the land. “Irrigation helps speed up the growth of the diverse grasses,” he said. “In addition, the dense plant canopy created by irrigation helps protect the soil from the heat. Although it was nearly 90 degrees the day of the tour, the soil temperature about one inch down in the irrigated pasture was 69 degrees.”

According to Ken, studies have shown that soil and plants especially are able to utilize moisture to the highest level around that temperature. In places where the canopy was thinner, soil temperatures exceeded 100 degrees. At 90 to 100 degrees, he says the maximum amount of moisture that is going to be used for growth in plants drops all the way down to 15 percent.

The Miller’s cropland is also 100 percent no-tilled with cover crops and perennials included in the cropping rotation to get as much diversity of plants, soil cover, living root systems and opportunity for animal impact on the land as they can to help build the soil.

Out on the land with them, tour participants could truly see how much they care about it. Walking a few of the different paddocks, Ken was quick to point out various things he was going to try this year and things he wished he would have done better last year.

Ken has provided tours and education countless times for countless people throughout his life, not just in south central North Dakota, but around the nation and the world through various organizations in which he is active. He truly has impacted many people and ultimately the land without asking for anything in return. For more information on irrigated pasture, contact Ken and Bonnie Miller at 701-663-9350.



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