Hands-On Stewardship of the Home and Ranch

Jane Koger, Matfield Green

Jane Koger's innovative approach to grazing includes including intensive early grazing and patch burn grazing on her 4,000 acre cow/calf ranch near Matfield Green in the Flint Hills of Chase county. With patch burn management, just one third of the pasture is burned yearly. The other two thirds are untouched, which provides habitat for grassland birds and other species, but it also captures more water and has positive impacts on water quality. Patch burning keeps cattle in one place without fencing which saves time, money, and energy on maintenance and upkeep. Furthermore, Jane's entire operation is off-the-grid, powered exclusively by solar panels and wind turbines. Her openness to community involvement provides opportunities for others to learn about land stewardship, water, and biodiversity.

> *To describe Jane's ranch would be to describe her personal stewardship approach to improving or enhancing a treasured state and national resource being the tall-grass prairie. Every aspect from the soil, to the plants, insects, wildlife, livestock, to a rancher's sustainability is integral in her thought process of management.*
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> *– David Kraft, NRCS Rangeland Management Specialist*

Water

Jane applies a combination of grazing system types including intensive early grazing as well as patch burn grazing. Patch burn is widely considered a cutting edge approach to a more historic management approach where the typical fire return interval is three years. Impacts to vegetation are equal to annual burning and sometimes even enhanced, allowing for two years of vegetation accumulation to occur. One third of the pasture is burned each year, leaving the other two thirds untouched – one third having one year's growth and the other one third having two years' growth. This growth provides a great deal of habitat for grassland birds and other species.

Watch: From Traditional Rancher to Patch Burn Conservationist - Jane Koger, Matfield Green, KS from Climate + Energy Project on Vimeo.

Not only is patch burning good for wildlife, Jane explains "it is like mulching your garden. When we get rain, it will hold better on 2/3 ranch." Precipitation which does fall is captured and stored within the soil profile and landscape. Patch burning practices have also helped re-establish wildflowers in the pastures; fifty-six species of butterflies have been observed on the ranch. Jane explains,

> *If patch burn grazing is good for wildlife and it's good for butterflies, of course it's going to be good for grazing livestock. Is there an optimum gain that you can get that still allows us to have prairie chickens and other ground nesting birds and quail? Maybe. And a diversity of plants and animals for a balance in a tallgrass prairie? If you manage for birds and butterflies and monitor those smaller animals, the quarter pounders will be there!*

Water Quality. As a member of the ranching community, the land which Jane manages is integral in protecting and maintaining a safe protected watershed in which precipitation is captured, stored, and among the most pure in the state of Kansas. Koger uses at least 50% less chemicals than peers. She does not do any aerial spraying and is very careful about how and when chemicals are used on plants and livestock.

Drought Plan. Native grass is adaptable; the grass is resilient and will make it through floods, droughts, ice storms, etc. Well-managed grasslands will provide cattle grazing material even in the most unpredictable Kansas weather. Jane's existing drought plan lines out destocking and redistributing according to grass availability.

Energy

Patch burning keeps cattle in one place which results in reduced fuel costs overall. It also results in the need for fewer fences which saves time, money, and energy on maintenance and upkeep. Jane moved to May calving about 10 years ago which eliminated the need for hay. Using cattle to harvest grass saves fuel as compared to the energy intensive process of haymaking. By calving time, she can use an ATV to make the three-mile round trip run to check on the cattle. Considering that ATVs average about 40 mpg, but can be as efficient as 70 mpg, using an ATV instead of a truck saves significant fuel.

Watch: Living off Grid, In Sync with Nature - Jane Koger from Climate + Energy Project on Vimeo.

Renewable Energy. Jane has taken the sustainability mentality into her off-the grid home where she produces her own energy with wind turbines and solar panels. Jane explains that "if there's anything I would stress to people, it's that a passive home takes an active home owner." She uses two sets of solar panels including solar electric on the garage with a battery system and solar hot water panels to heat water and provide radiant heat in the floors. Although her energy needs are met, Jane has become more mindful of her energy usage. She states "I do believe that it's made me a better consumer by being conscious of how much I really need." Wastewater is processed through a system in her home by which her house plant needs are met. This greywater filtration system improves air quality in the house. Her home is constructed of post and beams with native grasses baled on her own property as the insulation within her stucco walls. The lumber was repurposed from an existing barn. The design utilizes as much natural light as possible via a clearstory. Jane says,

> *All the electricity is supplied by 2000 watts of solar panels and 1000 watt wind generator and I also have solar hot water panels on the house for heating hot water. The solar electric I love, it's there, knock on wood. Really, I have not had 5 minutes of down time with my solar panels, and this will be the 15th year I've lived here.*
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> *Now having said that I'll also say that I live in a house much like everyone else's – I have too big of a TV, a microwave. I like to steam vegetables. I have a washer and a dryer. People think if you live off the grid you're doing without, I'm not doing without. I'm doing fine.*

Progress

Soil Health/Erosion Control. One of the most noticeable results of the patch burn grazing system is the improved soil surface conditions as compared to grazing systems where livestock movement is regulated and structured by fences which results in heavily eroded livestock trails. This causes water to leave the grazing area because of the non-vegetated or bare soil instead of

infiltrating into ground. Over time these trails wear away and promote accelerated soil loss. Patch burn grazing allows for the recovery of grasses to occur. Although the livestock graze heavily in areas exposed to prescribed burn that year, for the following two years, the areas are minimally disturbed if at all allowing for a complete recovery to the plant community and soil surface. Additionally, streams and draws are not used as fire barriers which improve riparian areas and further reduce erosion.

Community.

Jane is eager to share her ranching experience and love of the land with others. Her ranch has been the host to many field days, tours, and events highlighting her approach to conservation - and determination. For many years, Jane hosted "Prairie Women Adventures," inviting women of all backgrounds to experience the ranching lifestyle.

> *I was empowered by the work I was able to do and I wanted other people to have that sense. I learned that it's not so much a women's experience as being able to do something you haven't ever done before. I loved having people come visit and teaching them about what was going on. I never thought I was [just]teaching them, we were always having these conversations.*

Watch: Prairie Women Adventures - Jane Koger, Matfield Green, KS from Climate + Energy Project on Vimeo

Jane's openness towards expanding community involvement has also led to opportunities for researchers as well as state and federal agencies alike to benefit from access to a proving ground for everything from ranching to wildlife practices. For example, the patch burn grazing experiment started eleven years ago with a team of ranchers, researchers, and conservationists. All had a different focus – water quality, maintaining gains, habitat, prairie chickens, etc., the diversity was strength in the experiment. Jane explains "I didn't even mind living in an experiment." She is an advocate for passing her conservation-minded approach to grassland management on to family, peers, and professionals in the conservation field.