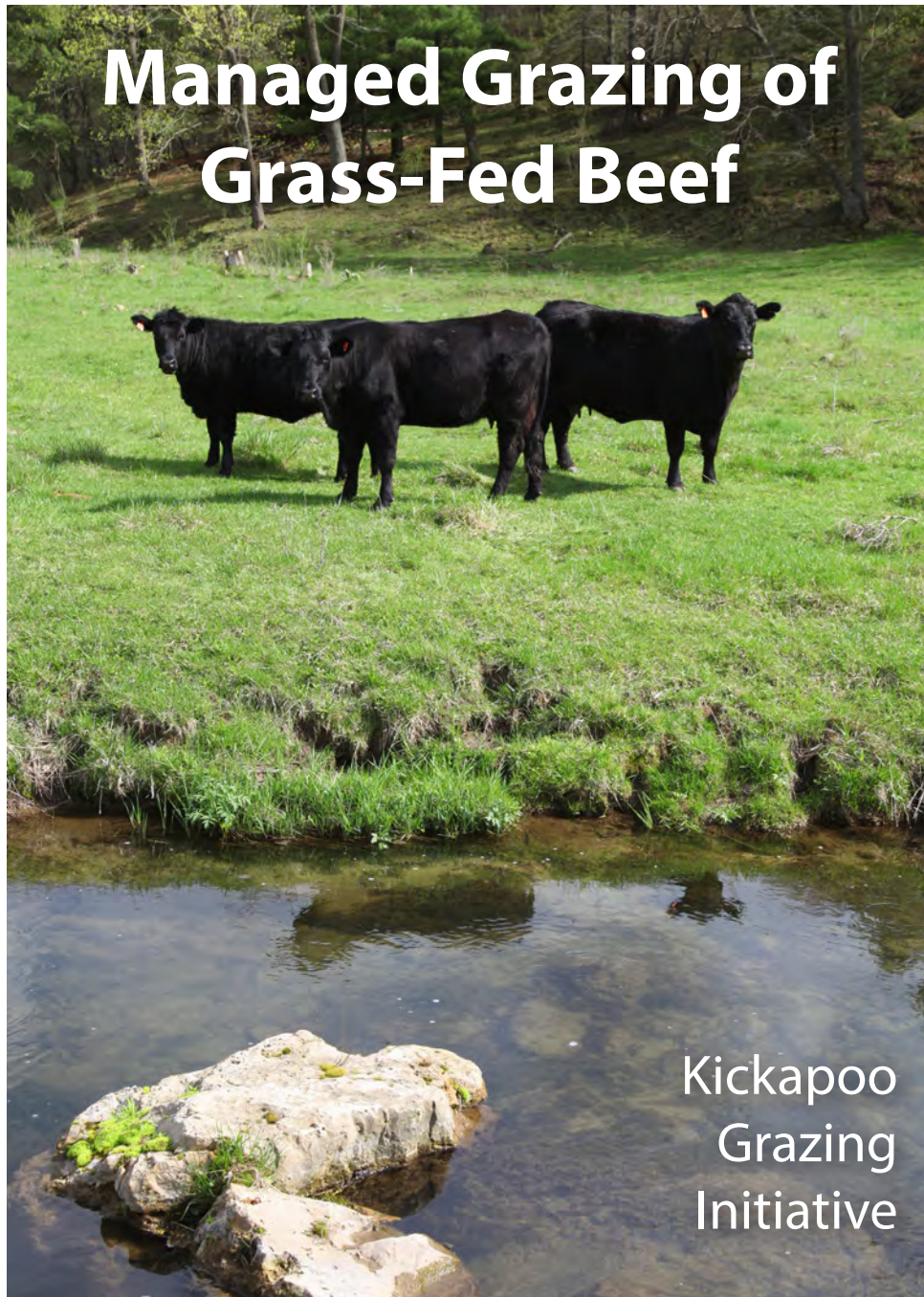


Managed Grazing of Grass-Fed Beef

Kickapoo
Grazing
Initiative



Kickapoo Grazing Initiative

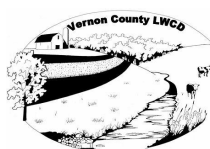
The Kickapoo Grazing Initiative (KGI) is a partnership among Trout Unlimited, Valley Stewardship Network, Vernon County Land & Water Conservation and UW-Extension: Crawford County with support from the the Pasture project of the Wallace Center of Winrock International. It focuses on promoting managed grazing and grass fed beef production as environmentally and economically sustainable practices that foster healthy lands and waters in the Kickapoo Valley.

The KGI believes that the Kickapoo Valley is a model for this mission. A simple message: Farms that have healthy, managed pasture areas will increase organic matter in the soil and reduce runoff to our streams and river. At the same time, farmers and landowners can produce a value-added product that will sustain their farm and the local economy. The topography, market availability, interest in healthy food and sustaining small farms, and commitment to finding the practices that protect our river and its world class trout streams all contribute to the success of this project.

Trout Unlimited's Driftless Area Restoration Effort (TUDARE) began in 2004 as an effort to expand watershed restoration funding, and partnerships across the four-state area. TUDARE has worked on partnerships throughout the Driftless Region of Wisconsin, Minnesota, Iowa and Illinois to support stream restoration and managed grazing in stream corridors. Through these efforts, the number of streams restored and number of groups doing stream projects has increased dramatically. One of their most successful collaborative efforts was working with several other conservation groups to write the Driftless Area Landscape Conservation Initiative, this proposal was approved and will contribute an additional 2 to 4 million dollars in conservation practices for the Driftless Area over the next five years.

Valley Stewardship Network (VSN) works to protect the lands and waters of the Kickapoo River Valley through stewardship outreach and citizen action that result in healthy food and water for generations to come. Some of the key accomplishments since its inception in 2000 include a 10 year Water Quality Assessment report of the Kickapoo Basin based on data collected from the Volunteer Water Quality Monitoring Network and the formation of the Fifth Season Cooperative with Vernon Economic Development Corporation that seeks to connect local farmers with institutional buyers like hospitals and schools.

Contributing to the strength of this partnership is local, state and federal agency support for grazing in the form of technical assistance and cost-sharing for farmers. In addition, there are three local marketing cooperatives that support grass-fed beef production: Wisconsin Grass-fed Beef Cooperative, Thousand Hills Cattle Company and the Fifth Season Cooperative.



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Introduction to Tool Kits:

Demand for grass-fed beef is currently growing at 20% per year. When this 20% per year increase in demand is coupled with the proven soil, water and human health benefits of grass-fed beef production, one can clearly see why increased rotational pasturing and forage-based beef production is exciting to farmers and conservationists alike. An economic analysis of grain-based versus grass-based beef production also supports this trend toward increased pasture-based beef production (See Financial Analysis, Section 4). For our area, we have the added benefit of multiple Grass-Fed Beef Coops as marketing assistance for farmers (see Marketing, Section 2)

There are also human health benefits with grass-fed beef relative to conventionally-produced beef. Corn-fed animals are high in the not-so-good/"bad" Omega 6 fats which are associated with heart attacks and obesity. In contrast, grass-fed beef is high in the "good" Omega 3 fats which are associated with reduced risks of both heart attacks and high blood

pressure. Omega 3's form in the leaves of forage plants and cattle eating these produce meat which is also higher in essential vitamins A, E, C, K and D than grain-finished beef. Grass-fed beef is simply lower in total fat, calories and cholesterol than beef finished on grain. [References: American Grassfed website: <http://www.americangrassfed.org>; Johnson, Jo (2013) "Why Grass-fed Is Best" "The Health Benefits of Grass-fed Farming"]

Changes in land use from row-cropping to more managed grazing on even a small percentage of crop lands in the Midwest will result in very substantial water quality and soil health benefits for the entire Mississippi River basin and its ultimate destination, the Gulf of Mexico. Conversion from row-cropping, which specifically supports grain-based feed lot production of beef, to land used for pasturing and the production of forage crops for beef production will result in multiple benefits for our farmers, land, waters and community.

Among these are:

Managed Grazing of Grass-Fed Beef:

- helps build soil organic matter and fertility and protects it from erosion thereby preserving its long-term production viability and sustainability.
- uses far less pesticide and reduces fertilizer costs.
- shows increased economic returns to the beef producer.
- produces healthier meat lower in total fat, calories and cholesterol for an increasingly health-challenged and over-weight American population.
- reduces equipment use and on-farm use of fossil fuels.
- results in increased carbon sequestration and reduction of greenhouse gases.
- mimics nature and is consistent with the developmental history of ruminants like beef cattle. It is natural.
- Increases and protects habitat for wildlife including critically declining grassland birds and water-quality sensitive species like trout.

Tool Kit Introduction & Overview

What exactly is “grass-fed beef”?

To qualify for the USDA grass-fed label, cattle must be fed only mother's milk and forage (grass and other greens) for their entire lifetime. The forage may be grazed or consumed as hay or other stored forage. Also, the cattle must have continuous access to pasture “during the growing season.”

Why raise grass-fed beef?

- The market for grass-fed beef is growing at 20% per year while the market for conventional beef is flat or shrinking. The average price per hundred weight for grass-fed beef is \$20 - \$25 more than that for conventional and grain-finished beef.
- With proper forage crop management and storage, it is possible to realize strong average daily weight gains and to do so at less dry weight feed cost per hundred weight of gain than in corn-based finishing.
- Financial Analysis (see Section 4) shows that production of grass-fed beef can return more profits to the producer than conventional grain-based systems.

Are there environmental and wildlife benefits for managed grazing and grass-fed beef production?

Managed grazing is now being viewed by a host of natural resources and environmental agencies and organizations as a valuable and important tool for building soil organic matter, reducing runoff, increasing wildlife habitat and protecting water quality. According to the GrassWorks' publication ***Earth Friendly Farming***, recent studies are showing the positive impacts:

“A study in southeastern MN compared soil in rotationally grazed pastures to soil from neighboring farms that produced corn, soybeans, oats or hay. After four years of monitoring, researchers concluded that land under MIG had 53% more soil stability, 131% more earthworms, substantially more organic matter in the top 12” of soil, better stream quality and more wildlife habitat.”

“Another study compared a MIG pasture to a cornfield during a heavy rainstorm and found that the pasture, despite its steeper slope, lost only .026 (T/A). Neighboring fields under moldboard plow lost 5 (T/A) and those under chisel plow lost 10 (T/A).iv In WI, researchers found that, compared with MIG pasture, gently sloped land planted with corn and soybeans lost 6 times more topsoil each year.”

Pasture based beef production can be integrated well into a landowner's desire to encourage wildlife. Protection of habitats and riparian corridors can be incorporated into grazing plans. Because of the concern for declining grassland bird populations that are

among the most threatened of our birds in North America, efforts are also being made to integrate ground nesting bird protection and habitat enhancements into pasture design such as with *Grassland Birds: Fostering habitats using rotational grazing* (Undersander et al., 2000). Pasture paddocks rotationally grazed near stream areas can actually reduce erosion and runoff of both fertilizers and pesticides and build soil organic matter compared to row cropping. Managed grazing can, therefore, improve water quality for fish and other wildlife. The 2007 publication by Minnesota Department of Agriculture, ***Managing Grazing in Stream Corridors*** by Howard Moechnig, gives a good overview of the this issue for stream grazing.

Is your land suitable for managed grazing?

The essentials any property must have to undertake grass-based beef production include: adequate land of the right topography and soil conditions to produce high quality forage; availability of clean water in each of several smaller pastures referred to as paddocks; fencing which involves dividing large pastures into smaller units on which the herd will rotationally graze for an average of just three days; and, design of paddock systems with connecting lanes for moving the herd.

See the excellent and informative document by Green Lands Blue Waters included here entitled “Evaluating Land Suitability for Grazing Cattle” in Section 3.

What exactly is managed “rotational” grazing?

Rotational grazing involves paddocks and the use of one portion of the pasture at a time on scheduled rotations. Resting time is given for grazed pastured areas in order to regenerate plant growth before the animals are returned to a given pasture / paddock. This gives the plants the opportunity to rebuild root systems, renew energy reserves, and provides longer-lived and higher quality pastures. The timing of rotations and when to pull the cattle out of a paddock is very important. Typically, pasture plants should be grazed no lower than 3 inches. This will ensure that the plants can recover more rapidly. Larger pastures are often divided into several paddocks. Paddocks may feed anywhere from 2-20 or more animals. For best results, rotations of three days or less are recommended for most grazing operations. Other grazing strategies, including Mob Grazing and Creep Grazing, can be used in conjunction with rotational grazing and for specific applications (see Section 5C). See the chart below for pasture waste caused by trampling and leaving cattle on a pasture longer than is recommended.

Grazing Period (days)	Pasture Utilization (%)	Trampling Waste (%)
1	80	20
2	78	22
3	72	28
4	70	30
5	65	35

(chart attached and from Penn State in presentation by Joyce Meader, Extension Educator, U. Conn. 3/24/13).

Rotational grazing strategies are in sharp contrast to traditional grazing or set stocking where animals are left continually in one pasture and the forage is over-grazed, the land becomes compacted and runoff often results.

Optimization of forage regeneration depends on length of time grazed as well as soil nutrient availability and types of forage plants present. See Section 5A.