

# THE FINANCIAL IMPACTS OF MANAGED GRAZING SYSTEMS



UW Discovery Farms

## PRACTICE OVERVIEW

Managed grazing is the practice of creating and following a grazing plan that is tailored to the manager's production and conservation goals and the features of the property, including plant productivity, topography, and water availability. Managed grazing benefits producers because it gives them the ability to determine their animal forage balance distribution, timing, and density. It can help producers adapt to ever-changing weather conditions such as drought. All of these factors in combination can help with profitability. Many different approaches of managed grazing have emerged, including multi-paddock grazing, holistic planned grazing, mob grazing, management intensive grazing, and more.

Managing ruminant animals' grazing activity can generate a variety of benefits.<sup>1</sup> Ensuring that ruminants do not overgraze a pasture or smaller areas within pastures can help provide continuous living cover for soil, which helps mitigate soil loss and encourage soil water retention.<sup>2</sup>

<sup>1</sup> Teague R., & Kreuter, U. (2020). "Managing grazing to restore soil health, ecosystem function, and ecosystem services." *Frontiers in Sustainable Food Systems*, 4:534187. doi: 10.3389/fsufs.2020.534187

<sup>2</sup> USDA. (2015). "Grazing economics: Conservation solutions for your Pennsylvania farm." [http://www.paglc.org/wp-content/uploads/2015/02/Grazing-Economics\\_Final.pdf](http://www.paglc.org/wp-content/uploads/2015/02/Grazing-Economics_Final.pdf)

## THE FINANCIAL IMPLICATIONS OF CONSERVATION AGRICULTURE

### THE FINANCIAL IMPACTS OF MANAGED GRAZING SYSTEMS

Managed grazing systems that aim to prevent overgrazing, protect soil health, and support profitability succeed when they achieve an optimal stocking rate, as measured by the number of animals per acre. An optimal stocking rate is achieved when the number of animals grazed over time is balanced with the plant productivity of the land.<sup>3</sup> These systems can also benefit from improved distribution of livestock to prevent overgrazing in some areas and undergrazing in others. Improving the distribution of livestock can be achieved in many ways, including subdividing pastures into smaller paddocks to limit cattle's access to each paddock or moving water sources and mineral blocks around the pasture to distribute grazing pressure more evenly. This is compared to continuous grazing systems, where livestock are generally allowed to graze large areas for extensive periods of time without active measures to distribute their grazing across the pasture. A variety of factors are taken into consideration when determining how large of an area to provide a group of livestock, how long to keep them in that area, how often to move their water and minerals, or at what time during the grazing season to allow them to graze that area. Some of these factors include nutritional needs, seasonality, forage type, management goals, convenience, and weather conditions. Managed grazing systems are also deployed differently across geographies, such as rangeland versus highly productive pastures.

Because of these variabilities, widespread data about the ecological and economic outcomes associated with managed grazing systems is limited or geographically specific.

## PRODUCERS CAN ADOPT MANAGED GRAZING WITH SOME UPFRONT CAPITAL EXPENDITURES

Typically, the primary upfront capital cost for managed grazing implementation is fencing and water system infrastructure.<sup>4</sup> Many producers who adopt managed grazing already have land and cattle and simply need to develop a grazing plan that helps them meet their conservation, production, and profitability goals within the limits of their property. Achieving their grazing plan can help producers optimize productivity for short-term profitability, reduce costs, and maintain soil and pasture health to ensure long-term profitability.

Producers often use temporary fencing materials, such as electrified polywire and portable fencing chargers, to distribute livestock among multiple pastures. Permanent fencing can also be used in the form of single-strand or multi-strand electrified high-tensile wire, which is typically cheaper to construct than barbed wire. Long-term adoption of managed grazing usually involves installing a water system to provide more watering points throughout an operation. Having more water points increases the flexibility that producers have with creating paddock sizes and the associated grazing efficiency increases when livestock are required to walk less than 800 feet to reach a water source.<sup>5</sup>

Cost-share assistance via NRCS' Environmental Quality Incentives Program (EQIP) can help producers install this infrastructure while also providing access to developing a grazing plan. In general, costs for fencing range from \$1.18/acre for mobile electric fencing to \$18.27/acre for high-tensile electric fencing.<sup>6</sup>

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3 Pratt, M., & Rasmussen, G. M. (2001). *Determining your stocking rate*. Utah State University Extension. [https://digitalcommons.usu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1992&context=extension\\_histall#:~:text=To%20determine%20how%20many%20animals,much%20forage%20you%20have%20available.](https://digitalcommons.usu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1992&context=extension_histall#:~:text=To%20determine%20how%20many%20animals,much%20forage%20you%20have%20available.)

4 Wong, T. (2020). "Rotational grazing improves stocking capacity and ranch profitability." <https://extension.sdstate.edu/rotational-grazing-improves-stocking-capacity-and-ranch-profitability>

5 USDA. (2015). "Grazing economics"

6 Undersander, D., Albert, B., Cosgrove, D., Johnson, D., & Peterson, P. (1993). "Pastures for profit: A guide to rotational grazing." [https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1097378.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1097378.pdf)

## MANAGED GRAZING SYSTEMS CAN IMPROVE PROFITABILITY

Studies have shown that using managed grazing systems can help producers achieve their income goals, lower income variability, and produce returns on investment.<sup>7</sup> Managed grazing systems can produce more forage if producers have the appropriate stocking rate and encourage optimal distribution of forage consumption within a pasture or paddock. Subdividing pastures or strategically moving water and mineral sources encourage livestock to consume forage across a pasture more uniformly and force them to eat less palatable forages, thereby increasing forage efficiency and uptake.<sup>8</sup> Improved animal health is another benefit of managed grazing, according to the USDA.<sup>9</sup>

## MANAGED GRAZING CAN OPEN NEW MARKET AND SERVICE OPPORTUNITIES

A pasture-based approach to livestock production opens new market opportunities for producers beyond conventional sales channels. Producers grazing their livestock on pasture have a variety of market opportunities to choose from, such as direct-marketing grass-finished beef or selling live animals to brands that advertise grass-finished livestock production.

Producers have opportunities to perform custom grazing services for other cattle owners, which can reduce the upfront capital costs of acquiring cattle if a producer does not already own any. More experienced producers may also take advantage of growing knowledge and information around grazing cover crops. Seeding certain forages can provide a source of forage-based feed while increasing soil health.

Notwithstanding these unique market opportunities, managed grazing can be beneficial and increase profitability for producers selling into conventional markets. Better managing forage reduces dependence on supplemental feed inputs, including grain and hay. Having higher quality pasture can also lead to increased milk production, better weaning weights, and heavier finishing cattle.<sup>10</sup> According to the USDA, beef cattle finished on high-quality pasture can achieve average daily gains of 2 or more pounds and reach market weight within 20 months at a cost comparison of \$27 per hundred-weight of gain versus \$60 in confinement systems.<sup>11</sup> Dairy producers in Wisconsin saw a \$200 increase in net profit per cow using managed grazing, for example.<sup>12</sup>



NRCS/SWCS photo by Lynn Betts

7 Teague R., & Kreuter, U. (2020). "Managing grazing"

8 Undersander, et al. (1993). "Pastures for profit."

9 USDA. (2015). "Grazing economics"

10 USDA. (2015). "Grazing economics"

11 USDA. (2015). "Grazing economics"

12 Undersander, D., et al. (1993). "Pastures for Profit"

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