



## LAND STEWARDSHIP PROJECT

LSP Soil Builders' Network Fact Sheet *Updated May 2020*

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## MANAGED GRAZING: SOIL HEALTH AND PROFITABILITY FOR FARMERS WITH LIVESTOCK

*“Livestock are the rock stars of building soil health.”*—Justin Morris, NRCS soil health expert

Would you like to expand your herd without adding more acreage to your operation? Maybe you would like to increase soil health in your pastures and/or crop acreage by boosting living cover and net profits. Farmers report that soil health results in greater resilience and less erosion, while boosting feed availability.

The practice of managed grazing — also referred to as management intensive rotational grazing, prescribed grazing or adaptive grazing management — keeps livestock on the move and never in one place too long. Managed grazing differs from continuous grazing when cattle have access to an entire area for an extended time, not allowing for plants to properly rest.

### MANAGED GRAZING

Managing the intensity, frequency, duration, and timing of grazing events helps improve pasture production, makes the best use of cover crops as forage, and improves soil health. Intensive management is more feasible with new technology such as easily erected mobile fence, watering systems, and shade structures.

#### Benefits for Pastures and Cover Crops

- Stimulates plants to release root exudates, which increases soil biological activity, contributing to improved soil health.
- Provides resilience to drought from increased water holding capacity and better regulated soil temperatures.
- Reduces erosion from heavy rains.
- Increases fungal diversity with plant diversity, which helps increase soil carbon and transfers carbon to more stable forms in the pores between soil aggregates.
- Increases carrying capacity on existing acreage.
- Improves the value and aesthetic of your land.
- Alters grasslands to provide a variety of nesting, brood-rearing, cover, and foraging habitat for wildlife.



**Portable Fencing System** (LSP Photo)

#### Additional Benefits from Managed Grazing of Pastures

Dividing the pasture into small, temporary paddocks, managing stocking density and rest, and moving cattle in timely ways helps raise both organic matter and biomass production in a matter of years.

- Helps increase the number of pasture species by tapping latent soil seed banks.
- Helps spread manure evenly.
- Consistent production of several tons of dry matter per acre from [pastures](#) is possible, depending on soil type, rainfall, pasture diversity, stocking density, and other management considerations

#### Added Benefits from Grazing Cover Crops

Utilizing cover crops as forage represents a win-win for livestock producers. Soil health improves and farmers realize short-term returns from saving money on feed expenses.

Practical Farmers of Iowa (PFI) tracked the costs and returns from [grazing cover crops](#) on three Iowa farms — Wesley

Degner of Lytton, Bill Frederick of Jefferson, and Mark Schleisman of Lake City — over three years from 2015 to 2017.

- The study found grazing cover crops can provide economic returns to farming operations within the same year cover crops are planted. Cost share contributed to the profitability.
- Mark Schleisman, an experienced cover cropper, found that cover crops provided 3.81 tons of dry matter per acre. Grazing cover crops offset Mark's winter feed expenses, on average, by \$40,095, or \$53.94 per acre.

The Pasture Project, Practical Farmers of Iowa, the Sustainable Farming Association of Minnesota, and the Land Stewardship Project worked with eight cooperating farmers in Iowa and Minnesota to demonstrate the value of [grazing cover crops](#). Costs and returns, along with soil characteristics, were tracked from 2015 to 2017.

- Seven of the eight farms experienced higher total soil microbial biomass by grazing cover crops compared to no grazing or no cover crops, as measured by the Phospholipid Fatty Acid (PLFA) test. Other soil health indicators such as soil carbon and organic matter also showed some improvement over that time period.
- Costs were offset by grazing the cover crops. Farmers spent on average \$83 per acre, per year to grow and manage cover crops, including management of grazing. The forage value averaged \$123 per acre, per year for a net gain of \$40 per acre.

### **Grazing Corn Stalks with Cover Crops**

Planting cover crops in fields where corn stalks are already grazed is a no-brainer. Fence and water are already in place, and cover crop protein complements corn stalk roughage. Research by [Iowa State University](#) and a study led by PFI found that compaction can be avoided with good grazing management and, in fact, can be lower when compared to fields that aren't grazed.

## **RESOURCES**

With appropriate management of grazing enterprises, soil function in degraded pastures and in row cropland can be regenerated to improve essential ecosystem services and farm profitability. Well managed grazing improves resilience by increasing water infiltration, soil fertility, nutrient cycling, soil formation, biodiversity, wildlife habitat, and carbon sequestration.

Natural Resources Conservation Service grazing specialists and Soil and Water Conservation District staff can help plan grazing layouts and grazing approaches. The organizations below have resources and can connect you to farmers or ranchers practicing managed grazing.

### **Resources:**

- Land Stewardship Project: <https://landstewardshipproject.org/lspsoilbuilders/grazing>
- Practical Farmers of Iowa: <https://practicalfarmers.org/programs/livestock/>
- Green Lands Blue Waters: [https://www.greenlandsbluewaters.net/Perennial\\_Forage/default.htm](https://www.greenlandsbluewaters.net/Perennial_Forage/default.htm)
- Pasture Project: <http://pastureproject.org/>
- Sustainable Farming Association: <https://www.sfa-mn.org/soil/>
- Iowa Beef Center: <http://www.iowabeefcenter.org/forage.html>
- University of Minnesota Extension Beef: <https://extension.umn.edu/pasture-based-dairy/grazing-and-pasture-management-cattle>



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