

# Four factors to consider when grazing animals and managing rangeland



With wildfires roaring across the states and greenhouse gas emissions constantly rising, the promotion of healthy ecosystems is consistently on the front burner. Due to this livestock grazing and production efficiency is more important than ever before. Grazing livestock through proper management is an invaluable tool to both ranchers and environmentalists.

By definition, grazing management is “The manipulation of animal grazing to achieve desired results based on animal, plant, land, or economic responses.” (Valentine, 2001)

In a University of Nebraska – Lincoln BeefWatch webinar, Dr. Mitchell Stephenson of Panhandle Research Extension discussed rangeland monitoring and management.

He shared how producers can track their grazing livestock and management practices, along with other variables that are influencing plant and rangeland health. Dr. Stephenson encourages operation owners to use this gathered information to adapt their management programs to better their operation and the rangelands.

Grazing management is an important tool for environmentalists and agriculturalists all the same. When utilized well animal grazing proves to be beneficial to all involved. These rangelands that are often grazed are an important part of livestock production, our economy, and the ecosystem of the area.

Rangelands are Social-Ecological systems and endless variables play a role in plant production, rangeland health, and are all factors in determining effective grazing management practices. Social aspects such as fellow landowners, economics, trade policies, political agendas, treaties, and any other social aspect of our local, regional, and global sectors are often forgotten but a crucial piece to the puzzle. The ecological aspect of rangelands may include land geology, soil, plant or animal invasions, weather, topography, climate change, and other local, regional, and global aspects of the ecosystem.

Social-Ecological systems such as rangelands are comprised of endless factors and each operation will be distinct from the next, with its own variables that can be used to determine efficient and effective grazing management for that given area. The numerous parts of a Social-Ecological system are ever-changing, as a result of this, there is a constant need for monitoring and changing grazing management practices. This challenge among the endless other tasks of running an operation can at times seem overwhelming.

Dr. Mitchell Stephenson shared some insight on how to efficiently monitor rangeland and use the information gathered to make decisions that will be more beneficial to the operation and environment. Dr. Stephenson presented four main factors that can help select the best grazing management techniques.

## **Spatial Pattern**

Analyzing the spatial pattern of your livestock can help you as a producer understand how your livestock grazes and utilize the land. There are many factors that play into the way livestock graze, some of these include the topography, fencing, pasture size, water availability, and placement of feed, water, and supplied mineral.

## **Species and Kind**

Whether it be cattle, sheep, or other grazing animals the species, kind, stage of production, and purpose of the animals are an important aspect of determining the proper grazing management method. The way you graze your animals should be influenced by the objective of the operation.

## **Number of Livestock**

The number of livestock turned out on any given range, pasture, or field will affect the health and production of plant material in that given area. When managing and grazing livestock it is vital to match the forage demand with the forage supply. The demand and supply will most often vary from year to year, sometimes extremely due to things such as weather, drought, previous management, and various other factors. You must have enough land with enough feed to provide and raise livestock in an efficient manner to be profitable and successful.

## **Temporal Pattern**

Some elements that establish temporal patterns are grazing strategy, time on and off of rangeland, seasons, and rotation of grazing areas. Overgrazing of pastures can not only be detrimental in that current year but will also have a lasting effect on the health, just the same when a section is managed well it will have a positive lasting effect.

A common goal among operations of all types is to better utilize the limited resources at hand while doing so in a manner that will positively impact the productivity of the livestock and rangeland. A truly successful operation is comprised of both a healthy herd and healthy rangeland, they go hand in hand.

To truly make educated, logical, and adaptive management decisions regarding an ever-changing area such as grazing it is important to have methods of monitoring.

Both spatial and temporal variability influences the pattern in which cattle graze, GPS tracking may be used to better understand this pattern. With the aid of this GPS technology, a livestock manager is better able to understand the way livestock graze and can make well-educated decisions on the best management practices.

There is new monitoring technology being developed all the time, such as the “Rangeland Analysis Platform”. Much like Google Earth, this technology provides satellite images from over 40 years’ worth of data. These images show ground cover, forage, bare ground, tree cover, shifts in vegetation and allows individuals to see years of pasture or rangeland. This proves to be very helpful when planning and making adjustments.

Grazing management is by no means an easy task, but it is surely an important one.

To learn more about monitoring methods and studies regarding grazing management, you can [view the full webinar](#).

**PHOTO:**

Maddie Jo Photography

Stoten Ranch

Frenchglen, Oregon

**Maddie Neuschwander**

Potential Intern