



Grazing Management 101

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Grazing management usually refers to controlling the amount and timing of livestock grazing to achieve a particular set of objectives related to both livestock production and aspects of the range vegetation, usually referred to as range condition. Grazing management is based on the general concept of resource sustainability where short term production should not be at the expense of long term potential. Goals and objectives of grazing management should involve consideration of ecological, social, and economic values.

Grazing management may be designed to maximize production efficiency in terms of the managers' aims (profit, security of income, etc.), stabilize animal production over time, and provide long term resource conservation from both ecological and economic perspectives. Over the short term, one or a few years, maximizing animal production may be contrary to maintaining or improving range conditions. However, over the long term continued high levels of animal production are possible if proper attention is paid to the production of the rangeland forage base.

There are many key decisions that must be made in the design and implementation of grazing management, but few are as important or controversial as stocking rate. Stocking rate is the total number of animals per unit area of land available for grazing (the management unit) for a specific period of time. In the Southwest we usually express stocking rate as animal units (AU) per section of land, but the concept applies generally to the amount of land allocated to each AU over a specified time

period. Stocking rate can be expressed several different ways. These include AU/Section/Year, AUM/Acre, Acres/AUM and Animal Days/Acre. For ease of interpretation the expression of animals/area is usually preferable. Expressions of stocking rate require specific definitions of additional terms with technical meanings. These include:

- Animal Unit (AU)
- Animal Unit Equivalents (AUE)
- Substitution Ratios (cattle, horses, sheep/ goats have different equivalents)
- Animal Unit Month (AUM)

Other technical terms with specific definitions that help describe grazing management are stocking density and grazing pressure. Stocking density is the number of animals per unit area at a given time. Grazing pressure is an instantaneous measure of the number of animals per unit of available forage (e.g., yearling days per 100 pounds of forage). These expressions are important because they each have a different relationship in terms of the response of the range to grazing and the response of the animals to the available forage.

To understand how grazing management may affect range condition one must have knowledge of how individual plants are affected by grazing and how plants interact with each other in plant communities. How grazing influences a particular plant's ability to grow, survive stress periods and reproduce depends on the plant's life form, grazing intensity and frequency, and the season of use. Season of use is related to the phenological (active

growth, flowering, seeding, etc.) stage of a plant and the growing conditions when defoliation occurs. The interaction of all of these factors combined with competition from other plants, herbivory by different species of animals, and past and current weather contribute to current range condition.

In addition to stocking rate decisions, grazing management applies five basic tools to influence these processes. The use of these tools can influence how individual plants and plant communities respond to grazing which in turn influences the rangeland condition or health and the forage resource as a whole. These five tools of grazing management can be applied to influence the effects of grazing which in turn relates to range conditions and animal production.

- Intensity of grazing—the level of use on individual plants. This describes the amount of plant material removed when a grazing animal bites a plant.
- Frequency of grazing—how many times an individual plant is defoliated (or grazed) during a specific grazing period.
- Season of grazing—the time of year that animals graze a plant in relation to its phenological development.
- Animal distribution—how evenly distributed animals scatter themselves across the landscape and relates to the distribution of utilization.
- Kind or class of livestock—the species, sex, age, or breed of animals that are stocked on the range.