

A Guide to Grazing Systems

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How a pasture is grazed will have a marked influence on its productivity, its persistence, its quality and the resulting animal performance. For instance, very light grazing pressure will usually result in high production per animal since animals can selectively graze the higher quality plants. However, the same light grazing pressure will result in low production per acre because animals are actually wasting forage. Conversely, very heavy grazing pressure will force animals to consume lower quality plants and plant parts. When this occurs for an extended time period, production per animal will be low yet production per acre may be increased because the animals waste very little of the forage. Another important management consideration is that extended heavy grazing will result in a reduction of the persistence of desirable plants. So, a management conflict can exist when deciding on a grazing system between maximizing production per animal and maximizing production per acre.

To get the optimum production per acre and per animal, a producer must plan the grazing system, or combination of systems, that more completely utilize the available pasture on the farm. With the more common forage plants used and typical growing conditions in southern Indiana, there are several grazing systems or techniques that could be considered to obtain these optimum production levels and maximize grazing profits.

Continuous Grazing

Perhaps the most commonly used grazing system is continuous grazing. This is the system where animals are allowed to graze an area for long periods of time, or even the entire grazing season. This is a low cost system because fencing requirements are minimal. This system rarely results in optimum utilization of forages nor maximization of both animal production and production per acre. If grazing pressure is too heavy, yields of both pasture and animals may be low.

If the pasture forage species is a mixed stand of grass and clover, the taller grass growth coupled with selective grazing of the clover, grass domination will be encouraged through this grazing system. An exception to this situation might be in the case of white clover. Many white clover/ grass pastures can be continuously grazed with moderate to heavy grazing pressures without the loss of the clover in the stand. However, the same grazing situation will significantly reduce or even eliminate red clover and/or alfalfa in the stand.

If grazing pressure can be regulated so that 3-4 inches of top growth is present at all times, then pasture productivity and animal productivity may be more acceptable than with either very heavy or very light grazing. However, it will be hard for most farmers to maintain an animal population that would keep this 3-4 inches of plant growth throughout the growing season; very high animal populations would be required in the spring, much lower populations in the summer and intermediate animal numbers in the fall.

Rotational Grazing

A rotational grazing system requires dividing large fields into smaller areas which will permit livestock to rapidly graze plants down to a 2-3 inch height. Animals are then moved to another area and the first area is allowed to rest, recover and re-grow. The length of this recovery time will depend on the plant species present: clover-grass mixtures should re-grow for about 4-5 weeks (or obtain a height of 8-10 inches) before it is grazed again, other legumes in a stand may necessitate an even longer recovery time while grass only stands may need less recovery time.

Rotational grazing allows for a short grazing period, when compared to continuous grazing, and therefore forages are more completely utilized. Less forage is wasted by trampling and selective grazing, especially during peak plant growth periods. It is preferred that fields be sized so that pasturage is removed in 10 days or less.

Rotational grazing favors the persistence of legumes such as alfalfa, red clover and birdsfoot trefoil. Both pasture productivity and animal productivity are more nearly optimized when rotational grazing is practiced in comparison to continuous grazing.

Strip Grazing

Strip grazing is really a form of rotational grazing. It involves using temporary fencing and allowing animals access to only a small area or strip of pasture at any time. Strip grazing requires more labor than most other systems, however it is extremely effective in achieving high forage utilization levels. Strip grazing is most often used when grazing summer annuals such as Sudangrass, grain crop residues, stockpiled cool season grasses, late-summer to early-fall hayfield re-growth and in fields where big round hay bales have been strategically placed for winter feeding.

Restricted Grazing

Restricted grazing is a practice that can be used with nearly any system. It simply involves restricting grazing animals to small areas when plant growth is rapid and allowing animal access to larger areas when plant growth is slow.

As an example, cool season grasses (tall fescue, orchardgrass, timothy, ryegrass) usually produce about two-thirds of their seasonal growth during the first third of the growing season. During this time of the year if pasture is stocked lightly, much of the spring growth becomes mature which results in wasted forage and animal refusal. However, if the same number of animals are restricted to small fields (or paddocks) which they can keep grazed to a 2-4 inch height during April through June then spring forage growth is more efficiently utilized. The fields that aren't grazed in the spring can be harvested and stored as hay or haylage. Then as the summer progresses, animals can be allowed access to larger grazing areas or moved to warm-season forage plant pastures.

Advance Grazing

Advance grazing goes by several names: it has been called forward grazing, top grazing and first grazing. This system is based on the idea of permitting animals with the highest nutritional needs (e.g. calves, yearlings, lactating dairy animals, lambs or kids) to have first access to a pasture or feed source making them the “first grazers”, while animals with lower nutritional requirements (e.g. dry cows, dry ewes, dry does, and some early-bred females in good body condition) graze or clean-up the remaining lower quality material, making them the second grazers. The first grazers get the highest quality feed before being moved to another area, which results in higher animal production. Animals with lower nutritional requirements are brought in as second grazers and forced to clean-up the remaining pasturage, resulting in a more complete forage utilization.

Creep Grazing

Creep grazing is an advance grazing technique or modification in which young animals (still nursing) are permitted access to higher quality pasture by passing through “creeps” or slots in the fence which are too small to admit mature animals. Weaning weights of calves may be increased by as much as 50 pounds per calf by using creep grazing.

Final Comments

It is important that producers keep in mind that no one grazing system may work the entire year. Adjustments to your system or modifications throughout the year maybe needed to account for forage growth seasonality, weather conditions and variations in animal performance and adaptability. By developing a grazing system that best fits a producer’s resources of land, labor, finances, and natural resources, a more efficient grazing operation, rather than continuous grazing, can be utilized. It is also important to note that the same grazing system will not fit the needs and desires of every producer. The systems described in this paper are meant as a starting point for thought and discussion. A producer may discover that the most efficient grazing system for their operation is actually a combination of several of the systems we have identified.

Adapted from a paper on Efficient Pasture Systems by Ken Evans and Garry Lacefield, University of Kentucky Department of Agronomy