



Cattle Producer's Handbook

Range and Pasture Section

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Management of Intensive Grazing Areas for Irrigated Cool Season Grasses

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Management intensive grazing (MIG) can be one of the most cost effective management activities for pastures. To be successful, plant varieties, composition, fertility and water management, along with livestock, must be considered.

A MIG pasture system utilizes several pastures or paddocks grazed for short periods of time at high intensities and then given rest periods between grazings. The manager determines the number of livestock per paddock, the amount of grazing time on each paddock, the amount of time (rest) between grazings, and the height of grass before and after grazing. Livestock are managed to conduct a timely, uniform, and prompt harvest of pasture.

MIG encourages uniform removal of plant material by using a relatively high density or number of livestock per unit area of pasture (e.g., high number of livestock per acre). Ideally livestock should remove the desired amount of pasture in 3 to 4 days.

MIG employs three basic concepts: (1) adjust rest periods as growth rates change, (2) use short grazing periods, and (3) use the largest herd possible consistent with good animal husbandry.

Rest Periods and Growth Rates

Overgrazing is a function of time: plants are re-grazed too soon. This stems from cattle left on a pasture too long and the same plants being re-grazed, or cattle are returned to the pasture too soon and the plants are given too little time to recover from grazing. Overgrazing can selectively discourage desirable plants while encouraging undesirable plants.

All plants need a rest period to resume growth after being grazed. When plant growth is slow, they require more time to achieve the desired amount of forage, thus rest periods need to be longer. When plant growth is rapid, rest periods can become shorter.

A guideline is rest periods of about 20 days are appropriate for rapid growth periods such as the spring. During slower growth periods the rest period may need to increase to 30 or more days.

Green leaves are essential for photosynthesis. Photosynthesis by the plant produces carbohydrates that can either be used right away for growth or stored in the roots for future use. When there is a small amount of leaf area photosynthesis is slow, and plants have to rely on stored carbohydrates for energy. The bigger the leaf area, the more photosynthesis, allowing for rapid carbohydrate production and use for growth or storage.

There is a direct relationship between the amount of leaf a plant has and the amount of root. Grazing should only remove a portion of the plant, leaving a portion to aid re-growth. If a plant is repeatedly grazed, it does not have the leaf surface to collect nutrients necessary for photosynthesis and root growth. To maintain vigorous plants, they need to have both leaves and roots.

Plant re-growth develops in three phases. Phase one growth is the short new growth that occurs after grazing. It is high in quality, but slow in growth rate. There is little forage to graze. Phase two growth is rapid enough to hold herd sized groups of cattle and of adequate quality that animal performance is not impacted. Phase two growth is the optimum growth stage for grazing. Phase three growth is when the plant is at its peak quantity