



MAFES

Practical Considerations in Designing a Grazing System

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Introduction

- Forages always have contributed to the world's food supply.
- Throughout the ages, humans have used grasslands to provide feed for herbivores, which in turn supplied high quality protein in the form of milk and meat to our diet



Utilization

- Forages provide the cheapest ruminant feed source, particularly when pasture is harvested by the grazing animal.
- Improved management of pastures can be the basis for improving human nutrition and welfare



Aim of Presentation

- Discuss principles of pasture management
- Describe various grazing management options
- Discuss the rationale for choice of grazing management

Importance of Grazing Management

- The management regime selected determines whether a potentially good forage will actually be a good forage!

Objectives of a Pasture Management System

- High production of herbage per area
- Consumption of forage (i.e., high efficiency of grazing)
- Persistence of pasture
- High level of production per animal and per acre
- Matches the needs of the producer

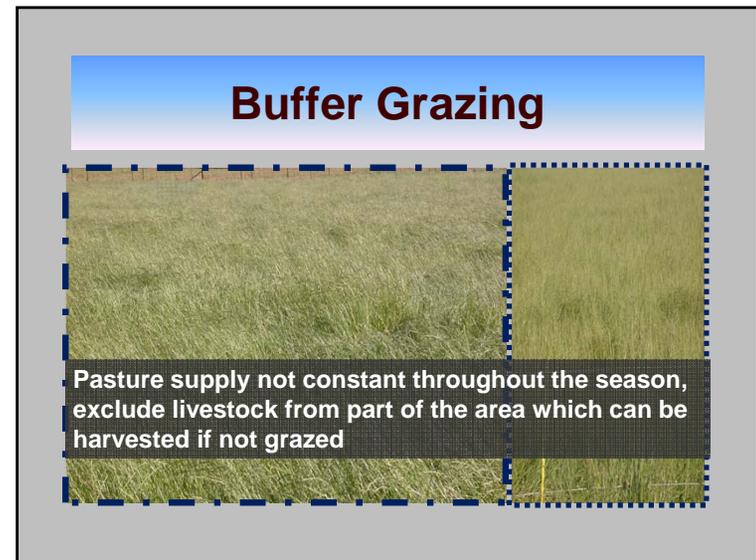
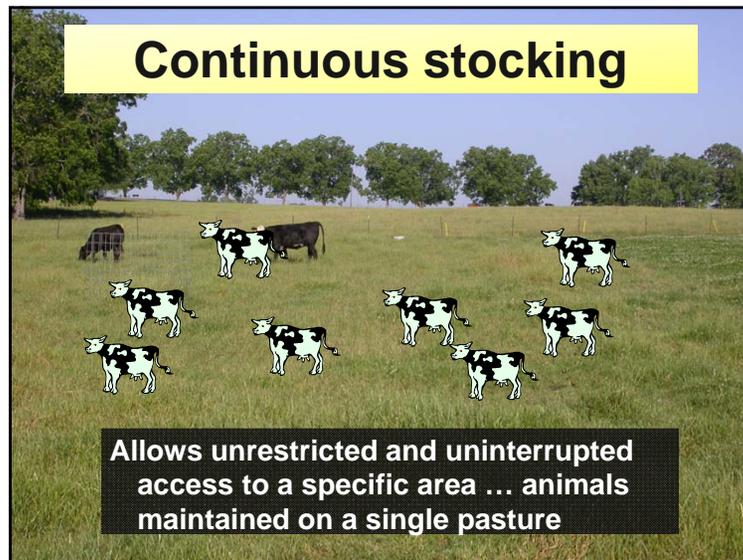
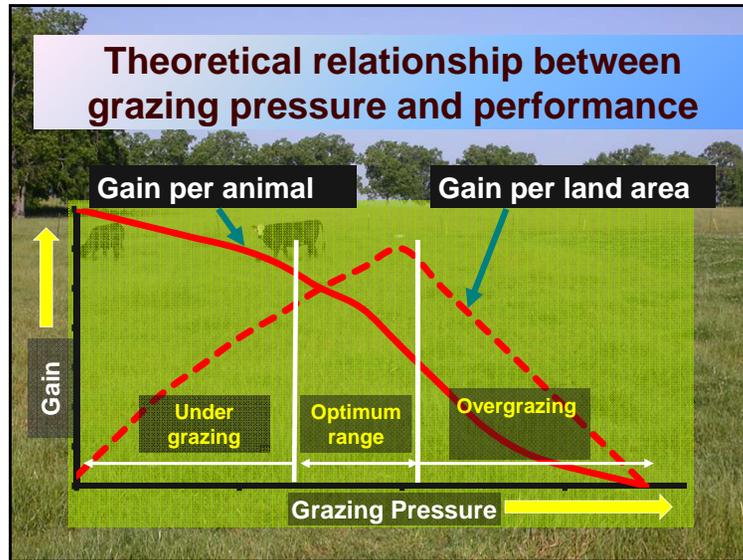


Matches the needs of the producer?

- Level of economic returns
- Acceptable level of risk for the farmer involved
- Managerial skill/interest of farmer

Grazing Management Definition

- The art and science of compromising between plant and animals to attain the objectives of a specific forage-livestock system

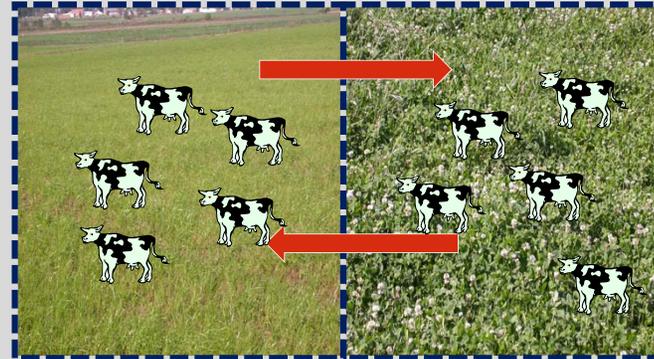


Mixed Grazing



Combine two or more animal species in the same grazing system; may graze together or separately at different times

Rotational Stocking

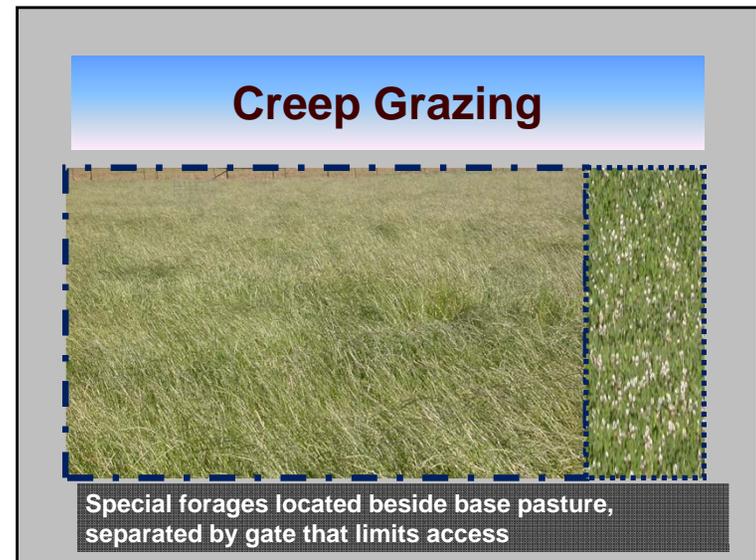
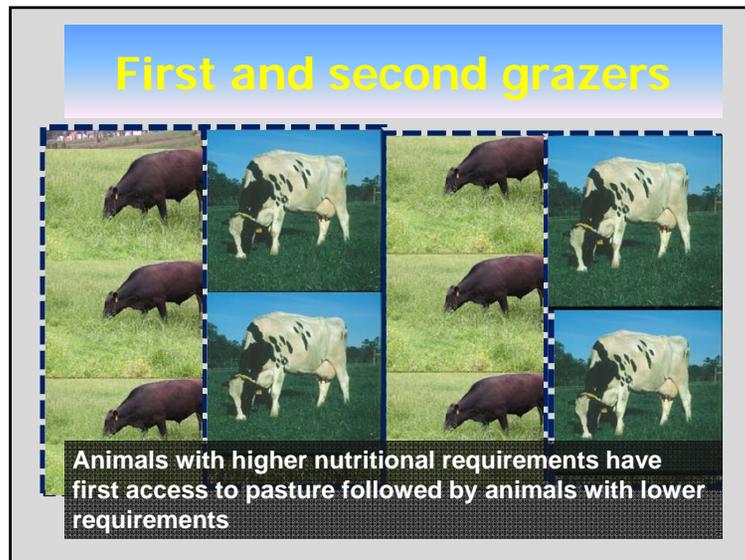
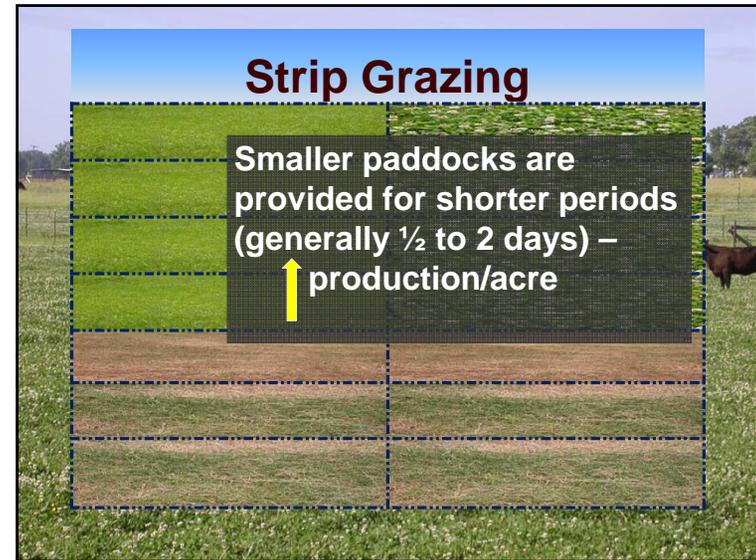
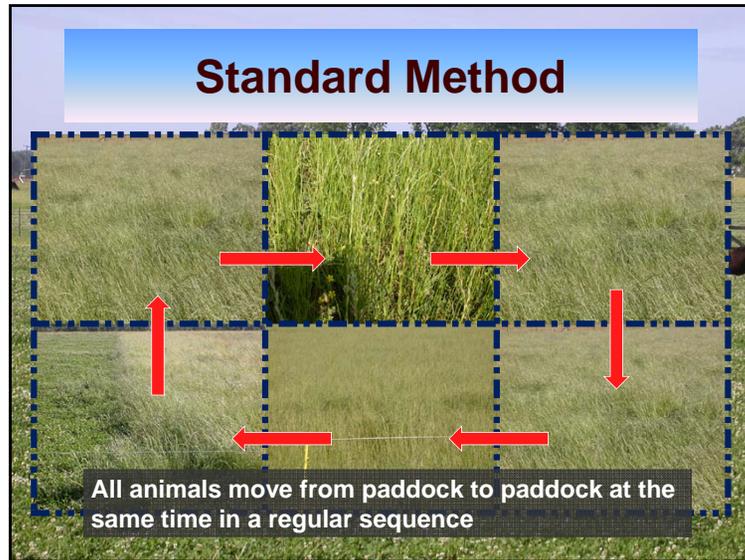


Recurring periods of grazing among two or more paddocks with periods of rest and regrowth

Reasons for using rotational grazing

- Plant persistence may require it
- Increase animal production per acre
- Closely fit nutritional needs of a given class of animals with the pasture they are grazing

Types of Rotational Stocking



Sequence Grazing



Two or more units differing in forage species used in succession

Limit Grazing



Involves components of both creep and sequence grazing, maintain livestock on low quality pasture but allow access to high quality pasture a few hours every day of every few days

Stockpiling

Forage produced during a period of higher production is allowed to accumulate to be grazed later

Advantages of rotational stocking

- Easier to maintain favorable botanical composition
- Improves pasture management, allow for management flexibility
- Parasite control
- Increases management options
- Allows for increased stocking rate
- Increased animal product per area land
- More uniform distribution of urine and feces

Advantages of continuous stocking

- Requires less capital expenditures (fence, water, etc.)
- Less labor required
- Fewer decisions and less complicated management
- Less variation in day-to-day digestibility and intake
- Greater opportunities for selection by animal at moderate-low stocking rate
- Animals may be more content!

Considerations in Developing Grazing Systems

Plant vs. animal requirements

<u>Plant</u>	<u>Animal</u>
<ul style="list-style-type: none"> • Maintain carbohydrate reserve • Maintain leaf area • Maintain bud sites for regrowth 	<ul style="list-style-type: none"> • Adequate quantity • Satisfactory character (nutritive value, canopy, etc.)

Considerations

- The ability of the animal to ingest needed nutrients is influenced by animal factors, chemical and physical attributes of the plants, sward characteristics, environment, and management
- Nutrient requirements vary among different kinds and classes of livestock
- A key goal of any grazing system is to match forage quantity and quality with animal requirements

Areas of control in grazing management

- Choice of forage species
- Level of input (irrigation, weed control, fertilizer application)
- Species and class of grazing animals
- Grazing intensity
- Frequency and timing of Grazing

Successful systems should:

- Maximize grazing days
- Minimize stored feed and supplement use
- Closely match needs of livestock
- Minimize needs pest control
- Conserve excess forage
- Allow nutrition to meet varying needs
- Use plants that adapt to local conditions
- Recycle nutrients
- Be practical and profitable to manage

Designing systems:

- Evaluate land resources and climate
 - Cannot be altered easily
- Determine what forages are best suited
 - Cool, warm season? Peak periods, forage deficits
- Fencing considerations
 - Low cost electric fences have made it much more feasible to implement a variety of grazing methods

Challenge

- It is one thing to produce a forage, but efficient utilization is a greater challenge
- The choice of method depends on the individual farm and producer
- Each method has advantages and disadvantages, a producer must select what best suits a particular situation
- Different methods are not mutually exclusive, and one is not necessarily superior to another!