Common Grazing Management in South Dakota

Grazing management in South Dakota is commonly grouped into “grazing models” or “systems” built on fundamentals of grazing management. This management can vary from location to location or even in understanding. The overall goal is to meet specific ecological and livestock objectives. Specific goals may include the most efficient use of the resource, livestock gains, invasive species control, soil enhancement, wildlife benefit, etc.. Not every “system” is alike, nor fits every producer or operation. It is therefore important to consider the fundamentals that will achieve your objectives while maintaining healthy rangeland.

Fundamentals of Grazing Management

- Forage Balance
- Rest/Recovery
- Alternate season use
- 50% use (take ½ leave ½)
- Monitoring
- Drought planning

Following are common grazing management strategies used in South Dakota. Information is based on prescribed grazing with the fundamentals of grazing management.

Continuous Season Long Grazing

All grassland is grazed for entire growing season at full use (50% of weight).

April - October

Pros:

-Low management input

-High diet quality, output/head with appropriate grazing management

Cons:

-High potential for selective intense, repetitive patch grazing

-No defined rest periods between grazing events or alternate season of use annually.

-High forage “waste” (trampling, bedding, animal waste), lower Harvest Efficiency

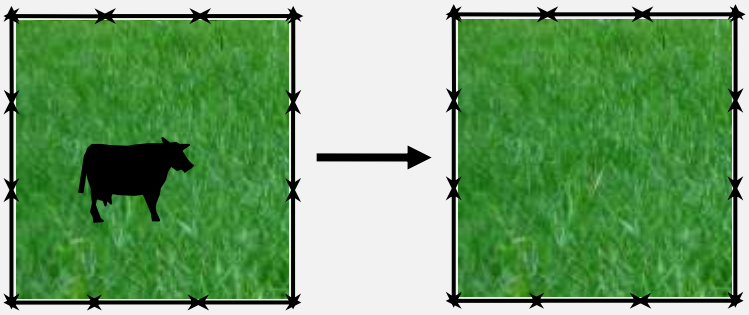
-Highly desirable forages are sought out, re-grazed continuously, and may decrease

Harvest Efficiency Potential: Likely less than or equal to 25%*

*Harvest Efficiency (H.E.) - the % vegetation ingested, on average, compared to the total vegetation grown in a given year. Ex. (100% vegetation) – (“take half, leave half” 50%) – (waste, 25%) = Harvest Efficiency (ingested vegetation , 25%.)

Continuous Seasonal Grazing

Simple 2 paddock grazing, often designed with special use forages (warm season and cool season). Lack of annual alternate season of use.



April - June | July - October

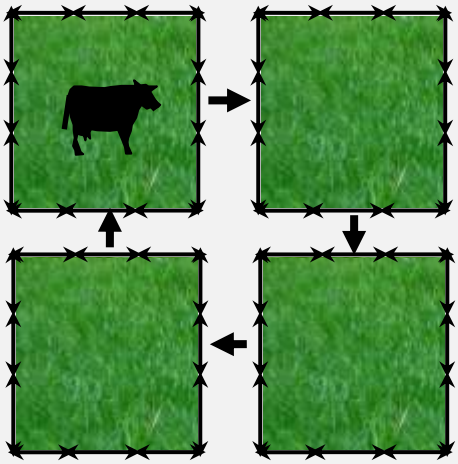
Pros:
- Increased utilization control compared to continuous season long grazing
- Less forage "waste", slightly higher harvest efficiency than continuous season-long
- Grasslands receive a period of rest for recovery of grazed forages

Cons:
- Potential for selective, intense, repetitive patch grazing
- No defined alternate season of use between years
- Allows little deferment (rest and rejuvenation) for cool or warm-season grasses

Harvest Efficiency Potential: likely 25%- 30%*

Rotational Grazing

Livestock graze multiple paddocks, rotating with consideration to forage growth and regrowth.



1.5 month per paddock

Pros:
- Recovery for warm and cool-season grasses achievable during their growing seasons
- Allows for periods of re-growth and recovery between grazing events
- Potential to alternate season of use between years.
- Potential increased animal health/ performance

Cons:
- Increased management, time, and investment
- Potential for imbalanced utilization on paddocks under time constraints

Harvest Efficiency Potential = Likely 30% Harvest Efficiency* depending on management

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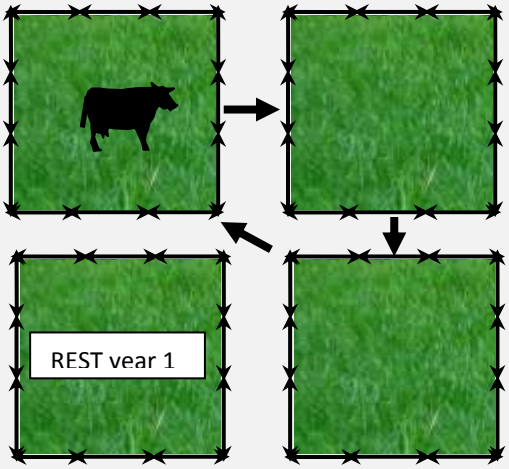
Rest Rotational Grazing



Livestock graze multiple paddocks, rotating with consideration to forage growth and re-growth. A different paddock rests for the entire growing season each year.

Pros:

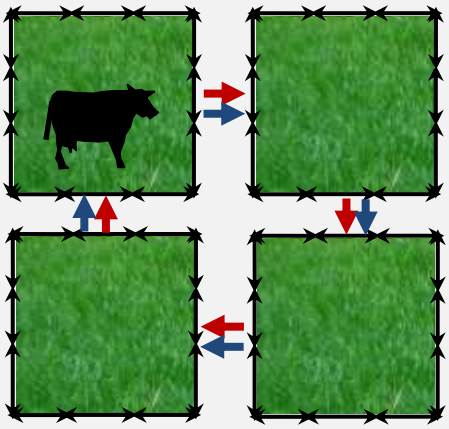
- May provide optimum wildlife cover/food
- Rested paddock recovers from previous grazing events building soil, roots, and biomass.
- Potential for alternate season of use change between years.
- Rested paddock provides stockpiled forage and drought contingency

Cons:

- Loss of rested grazing acres for that given years growing season
- Increased management, time, and investment.

Harvest Efficiency Potential = 30% harvest Efficiency* Depending on management

Twice over Rotational Grazing



Livestock quickly graze multiple paddocks, each at least twice in growing season, with consideration to forage growth and re-growth.

Pros:

- Decreased prolonged grazing pressure on forages, increased recovery opportunity
- Enhanced benefits to soil structure, vegetation, wildlife
- Increased opportunity to maintain vegetation at desired quality and stage of growth.
- Increased ability to optimize livestock diet quality/ animal health/ performance
- Ability to target specific species and manage forage use during fast and slow growth periods

Cons:

- Less flexibility for rest periods and change of season of use.
- Requires increased management, time, and investment.

Harvest Efficiency Potential = Likely 35% harvest Efficiency* Depending on management

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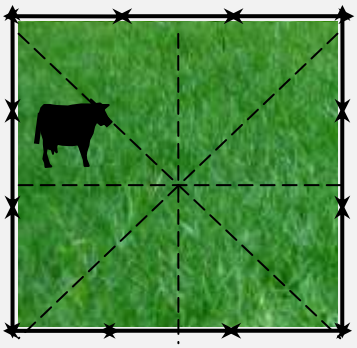
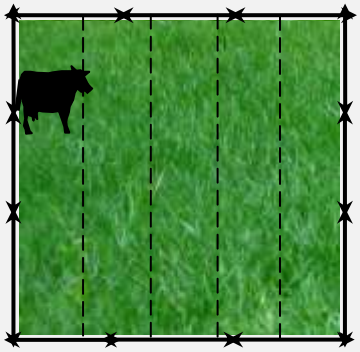
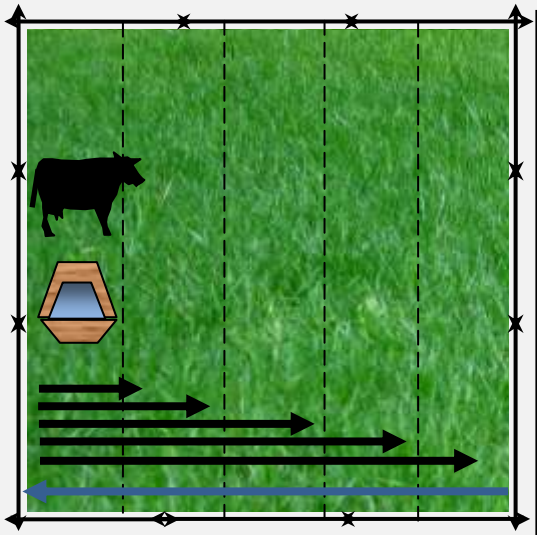
Management Intensive Grazing (MIG)

This type of management is specific and planned. Management intensive adaptations are usually comprised of subdivided paddocks in an existing pasture (often with temporary electric fence). There may be many arrangements and different movement schedules (many times per day to once every few days). Management Intensive Grazing requires dedicated management and time with specific objectives (livestock gain, harvest efficiency, vegetation manipulation, Etc.). This is accomplished though a high stock density with short duration grazing, reducing the amount of forage waste, denying selectivity in animals and adding more homogenous manure application. Availability of water can be the most critical, and often the most limiting factor.



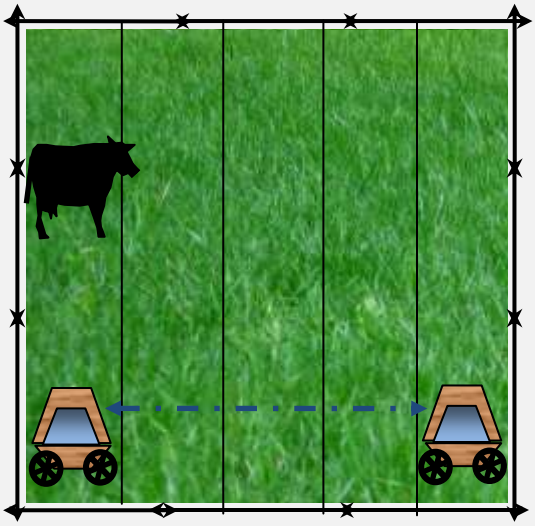


Harvest Efficiency Potential: With increased management and careful planning of stock density, harvest efficiency has been reported from 30% up to 40% (50% utilization with 10%- 20% "waste"). However, this management requires livestock to harvest all available forage, regardless of quality, and potential can exist to have resulting higher or lower gains and livestock condition depending on forage condition at time of grazing.



One central water source: High **temporal** harvest efficiency, moderate **long term** average harvest efficiency. Can be used to utilize or suppress invasive forages, however, this grazing pressure has potential to decrease native plant communities.

Availability of water is a major factor in achieving grazing objectives with management intensive grazing. It can affect livestock gains, utilization of forages, and harvest efficiency for each paddock. In the absence of a mobile water source, swift repetitive utilization can achieve suppression of target species in their palatable life cycle with careful management. Caution: desirable species may be impacted as well.



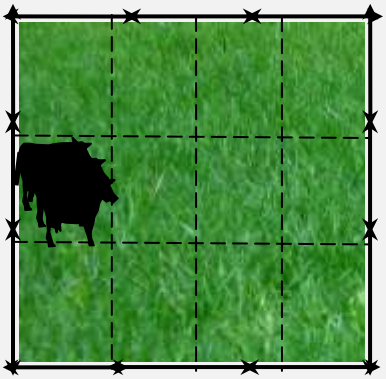
Mobil Water source: water available in each paddock, without paddock back grazing. High temporal harvest efficiency and high long term average harvest efficiency. Optimal for native range grazing as it is a high stock density for a short time, allowing plenty of rest for the native forages.

Ultra-High Stock density grazing management

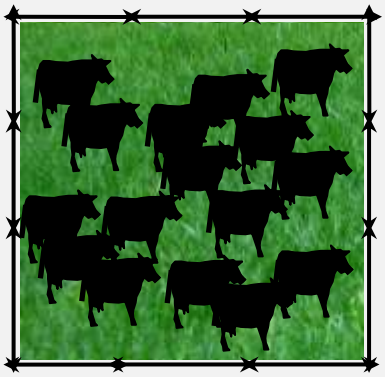
Ultra-high stock density grazing concepts regaining popularity include “Boom-and-Bust” or “MOB grazing”. This type of management is specific with defined goals and objectives such as; targeting specific plant utilization, modifying plant diversity and composition, enhancing soil structure and function, forage trampling, manure distribution, and overall plant and soil resource health.

Ultra-high Stock Density is defined and calculated as lbs. beef/acre, at any given point in time, not cumulative through length of occupation. In central South Dakota, ultra high stock density can be up to 200,000 lbs beef/ acre and higher. Densities less would typically be considered “High Stock Density” management. Many producers do not have the number of livestock to achieve this stock density without manipulating paddock size through crossfence. Attempting to compensate by allowing longer occupations does not achieve a higher stock density, rather a negative grazing impact, likely resulting in degradation of resource conditions and animal performance.

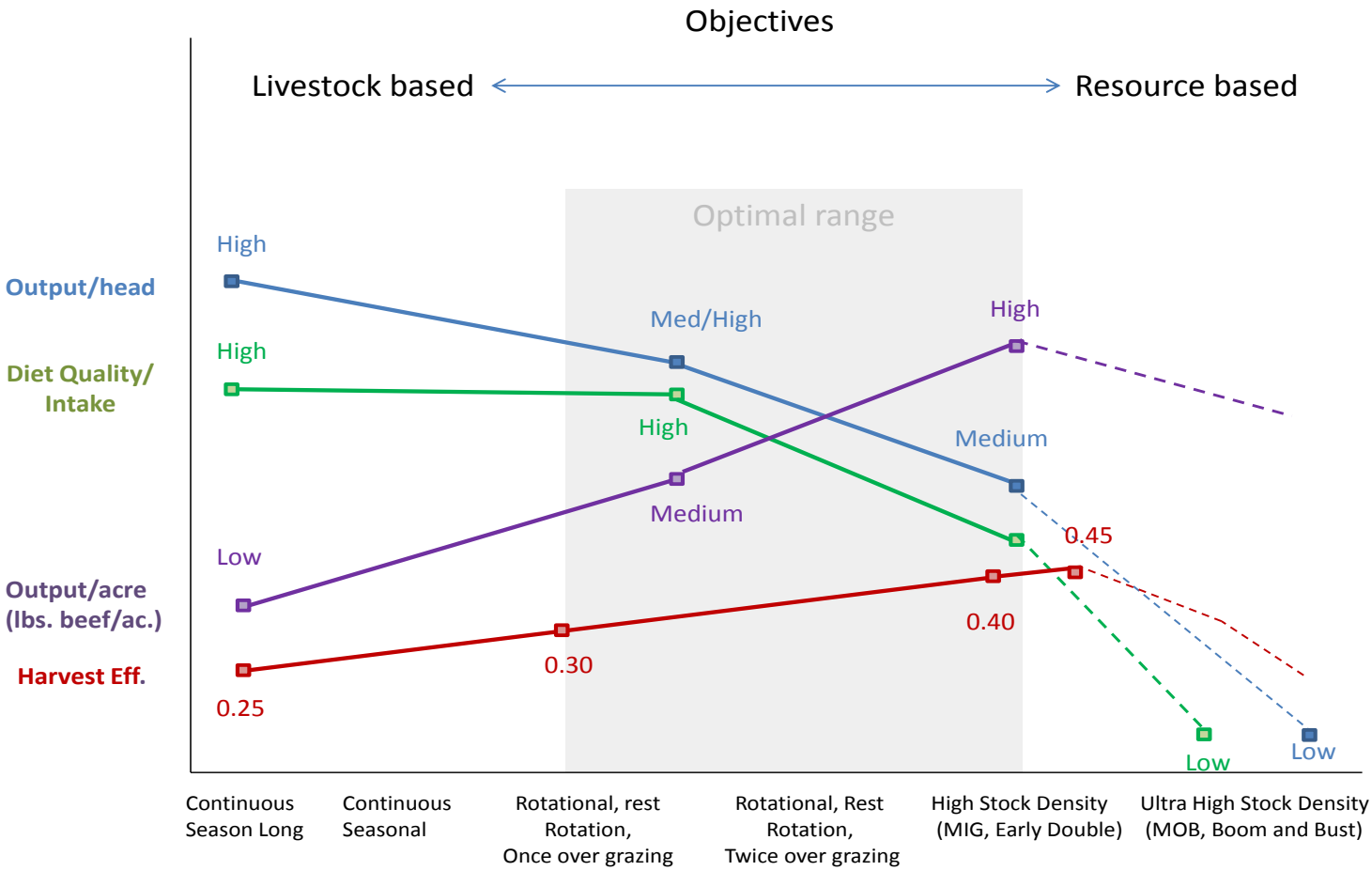
Ultra-high stock density management has been proven an effective short term treatment and is currently being investigated as a sustainable “system” allowing 60+ days of recovery in the growing season.



Short grazing period with 60+ days rest (minimum) in growing season.



Grazing Management Conceptual Graph



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