Pasture Management Issues for Equine Producers

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A typical equine producer:

- General forage issues affecting equine producers:
  - Selecting base forages
  - Grazing management and fertility
  - Overgrazing
  - Manure concentration
Fertility problems are not restricted to mares!

- Majority of pastures in SC are never soil tested and are low in fertility
  - Lack of equipment?
  - Knowledge?
  - Price?
  - Failure to see benefit due to overgrazing?

- Biggest reason for clover establishment failure and largest factor limiting pasture productivity
WEED Control

• There is no better weed control than a healthy thriving thick stand of forage/grass
Question: What should I plant and when should I plant it?
Question

My pastures are:

A. Common bermudagrass
B. Hybrid bermudagrass
C. Bahiagrass
D. Tall fescue
E. Sand
Things to Consider When Choosing a “Base” Forage

Perennials (Warm Season) should form foundation of grazing system
  – Dependable
  – Persistent
  – Productive

• Match to climate and time production is needed
• Consider establishment methods, fertility needs and grazing tolerance

Horses grazing tall fescue/bermudagrass
Warm Season Perennials

• All base forages should be perennials
• Warm season plants produce in summer months
  Late April – first frost
• Drought tolerant and most are grazing and treading tolerant
• *Bahiagrass and Bermudagrass*
Hybrid Bermudagrass
Must be established vegetatively
Slow
Expensive
Hard to contract small acreages

Benefits:
Higher yields
Good quality
Excellent for hay production

Hybrids:
Coastal, Russell, Tifton 85
Tifton 44 – slow to establish
Seeded bermudagrass is a great option in many cases.
Seeded bermudagrass can fit...

- **NOT** as high yielding as hybrids (~70%)
- How do yields compare at marginal fertility levels?
- Particularly appropriate for rented land, steep land, small acreages
- Use caution in Coastal Plain
  - Difficult to establish
- Cheyenne II, CD90160 and KF194 good
- Wrangler and Giant should be avoided
Seeded Bermudagrass 3 yr yields

<table>
<thead>
<tr>
<th>Variety</th>
<th>Tifton GA</th>
<th>Griffin GA</th>
<th>Calhoun Ga</th>
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<td>Coastal</td>
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<td>14624</td>
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75 lbs N at greenup and after each cutting
Est summer 2002 and harvested 2003-05
Pastures – Bermudagrass

- Higher quality forage than Bahia
- Requires more fertility
- Less tolerant of poor fertility and flooding
- Shorter growing season than Tift 9 but about same as Argentine
- Dramatic decrease in quality as plant matures
Bahiagrass

- Many options - Pensacola, Tifton 9, Argentine, Tifquick
- Slower to establish than bermudagrass
- Longer grazing season
- Tolerant of low fertility and pH
- Lower producing
Pastures

• Bahia grasses
  – Very tolerant of low fertility, high traffic, drought or flooding, nematodes
  – Not the highest quality forages
  – Works well with legumes and cool season annuals
  – Less susceptible to insect and disease pressure
Pastures – Bahiagrass

- Pensacola
  - Narrow blade
  - Less palatable than some other varieties
  - More tolerant of the over grazing/ poor fertility regime
  - Longer growing season than Argentine
Pastures – Bahiagrass

• Tift 9 Bahia Grass
  – Selection of Pensacola
  – Selected for hay production
  – More upright growth habit almost a bunch grass
    • Opportunities for over/inter seeding?
  – Very long growing season
  – Doesn’t tolerate flooding or droughts as well as other two varieties.
Bahia VS Bermuda

• If you are not going to take soil samples or put out lime and not manage the grass intensively Bahia Grass will win every time.
Which warm season perennial is best suited to poorly drained, low fertility soils or small acreages?

A. Bermudagrass
B. Bahiagrass
Warm Season Annuals

- Crabgrass is probably best warm season annual pasture for horses
- Millets can be grazed with horses but are difficult to manage
- Sorghums should be avoided due to urinary cystitis problems (johnsongrass, sorghum-sudan, sudangrass)
Cool Season Perennial Grasses

• Tall fescue is best adapted species for this area
  – Only adapted to heavy soils in low country
  – Palatability can be an issue in mixed stands
  – Highly persistent after establishment under moderately heavy grazing

• Orchardgrass will persist in upstate for about 2 years under ideal grazing
  – Less productive than tall fescue

• Timothy and KY Bluegrass are **NOT** an option
What about native species?

- Native species do not tolerate continuous grazing
- These species are difficult to establish and manage; introduced species offer more advantages to horse producers
- Can work but must be a good manager

Switchgrass
Which legume should I plant?
What about Legumes?

- Clovers can be a valuable addition to perennial pastures
  - Fix nitrogen
  - Improve grazing season
  - Improve forage production
  - Improve quality
- White clover in tall fescue
- Some winter annuals in bermudagrass
  - Arrowleaf and vetch highly unpalatable
Will Durana White Clover work in bermudagrass or bahiagrass?

- Tall order!
- Warm season perennials are much more competitive
  - Growth season
  - Growth habit
- 65% vs 6% survival of Durana vs Regal in bermudagrass after 2 yrs
Annual Clovers
(for Bermudagrass and Bahiagrass)

- Crimson clover
  - Early spring production
  - Performs well in combination with ryegrass - best choice
- Ball clover
  - Dependable reseeder and performs well on poorly drained soils
- Subterranean clover
  - Good reseeder but low production
- Arrowleaf clover previously one of the most popular annuals in Coastal Plain
  - Extremely unpalatable for equines
Red clover and “slobbers” (Stay Away)

- Red clover can be infected by a fungus
  - *Rhizoctonia leguminicola* a.k.a. black patch
  - Produces an alkaloid known as slaframine
- Occurs normally in cool, wet springs
- Decreases after 10 mo in hay
- Disappears with feed change after 48-72 hrs
- Normally a cosmetic problem

A horse showing signs of “slobbers”


Steven S. Nicholson, DVM, LSU
Alfalfa

- Typically only persists for a few years in the Coastal Plain
- Three to four years realistic in Upstate
- Grazing tolerant varieties are available.
- Past Clemson research demonstrates that it can be interseeded and grown in combination with bermudagrass for hay production
  - Furnished at least 200 lbs N /A in this system
- This system is being implemented by progressive hay producers in S. GA

Dr. John Andrae—Clemson Forage Specialist
Many Equine Producers are Overstocked

- Fixed number of horses on inadequate acreage
- Impossible to produce enough forage for stocking density and unwilling to decrease density

Four Options:

1. Buy more land (unlikely)
2. Sell some horses (very unlikely)
3. Continue to overgraze and amplify pasture’s downward spiral (short term outlook with long term costs)
4. Supplement horses, improve pasture fertility, and utilize controlled grazing
Rotational Grazing – Benefits*

- Increase in forage production potential (more DM lbs.)
- Increase in forage utilization (30% vs. 70%)
- Increase in carry capacity (0-10% more brood cows)
- Reduction in supplemental feed use (5-20%)
- Reduction in fertilizer use due to nutrient recycling (0-20%)
- Resting allows legumes and other forage species to grow
- Increase in calf production weights per acre (0-15%)
- Improvement in weaning percent (0-5%)
- Improved animal handling
- Improved animal health
- Provides more grazing flexibility during weather extremes
- *The percentages above represent averages observed by cattle farmers adopting rotational grazing. Start small and gradually increase the number of pastures.

Dr. Walt Prevatt—Auburn University Livestock Economist
Grazing Management

- Paddocks and rest periods are necessary for small areas and very helpful in large pastures
- Rotational stocking advantages
  - Minimize spot grazing
  - Increases flexibility of farm and pasture management
    - Overseeding, Manure spreading and fertilization, Replacing toxic fescue etc.
- Limit grazing can be useful when rotational grazing is impossible
  - Substitute hay and other imported feedstuffs for forage in a sacrifice area or barn
  - Limit access to various paddocks during evening or daytime hours only
Two Essential Rules of Grazing Management

1) Avoid grazing until plants have reached an average height of 6 to 8 inches.

2) Remove horses and rest pastures when plants have been grazed down to 3 to 4 inches.
Principles of Rotational Grazing

• Nutritional needs of livestock can be met efficiently
• Forage yield, quality and pasture persistence can be optimized
• Economic profit can be realized though efficiency and productivity
Traditional Pastures are Often “Continuously Grazed”

This usually means:

- Lower yields
- Serious weed pressure
- Erosion problems
- General “poor” management
In Rotational Grazing...

• Pastures are subdivided into smaller areas (or paddocks)
• A portion of the pasture is grazed while the remainder “Rests”
• Paddocks are allowed to:
  – Renew energy reserves
  – Rebuild plant vigor
  – Improve long-term production
Traditional Pasture
Rotational Grazed Paddocks
Intensive Rotational Grazing

Lane
Figure 1. Continuous grazing pasture layout.

- 6-acre field (511 ft x 511 ft)
- No internal fencing
- Horses make grazing decisions
Figure 2. Rotational grazing pasture layout.

- 6-acre field (511 ft x 511 ft)
- Pasture fenced into three equal-sized paddocks
- Additional water tank positioned between second and third paddock
Horses

• Bite plants at ground surface (damaging)
• Spot grazers
• Rotational grazing is a must
• Prefer young vegetative grasses
• Horses have one mouth and 4 legs (Difficult on a pasture)
Heavy Use Areas

- Install rain gutters on farm buildings or barns to direct water away from pastures or paddocks.
- Maintain healthy pasture and stay away from over stocking (Most important when thinking about heavy use)
- Cover manure pile
Heavy Use Areas

• Sacrifice paddock or area to keep horses off of wet pastures

• Horses on wet pastures create mud, compact soil, overgraze, and trample grass. Results in less vegetation to filter sediment and use nutrients.
Sacrifice Paddocks/Corrals/Dry Lots

Provide an opportunity to move animals off pastures, when excessively wet and to avoid overgrazing. Sacrifice lots can vary in size, should provide a minimum of 500 sq. ft. per horse.
Prevent this
High Traffic Areas

- Water Tiles—direct water away from concentration zone
- Sand
- Rubber
- Crush and Run
- Fabric
Water Quality
Fecal coliform bacteria

Do you know what’s going on around your wellhead?

Surface Water
Build Facility to Limit Exposure

- Barn (Horses) hidden from view or away from roads (Remember not everyone loves horses)
- Gates locked and secured
- Tack room locked and secured
- Proper lighting
- Wire fencing easy to cut
Land Access

• Urban Sprawl
  – Unfriendly horse zoning
    • Neighbor complaints
      – Manure
    – Decreased trail access
Good Stewards

Remember, any complaint about horses reflects on all horse owners. Realize that not everyone loves horses. Consider yourself an ambassador for horses by good stewardship of land and water resources.
What do you think about this??
Watershed Protection

• Limit horse access to waterways
• Do not let wash-water from horses drain directly into waterways
• Fence around small tributaries
• Install Riparian buffer strips
• Protect wetlands which filter stormwater runoff
Horse Manure Production

• Manure – 9.1 tons / 1000 lb / year
• Bedding – 1.5 to 2.7 tons / 1000 lb / year
• Total – 11 to 12 tons / 1000 lb / year
• Volume – 94 cubic feet / ton
  – A typical 6’ pickup bed holds ~60 cubic feet

(Sources: John Chastain, Ph.D.; Hudson, 1994; NRCS; Wheeler, 2006)
How can horse waste impair water quality?

Although horse wastes (manure, urine and soiled bedding) are organic, biodegradable materials, many of their biological and chemical properties can be detrimental to fish, insects, and other aquatic life if those wastes get into local waterways.
Questions