



Improving Animal Performance with Alfalfa

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 Alfalfa in the South
 Workshops




Goals for Today

- Review **animal nutrient requirements**
- Discuss **how alfalfa can contribute to nutritional gaps** in the diet
- Look at potential **systems using alfalfa-bermudgrass** in cattle operations





Look at the following picture – what do you see first?

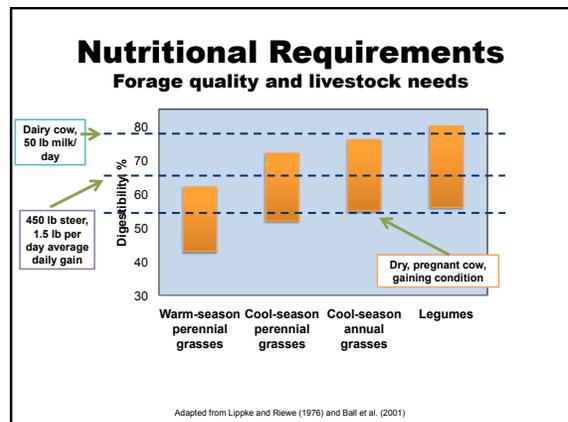
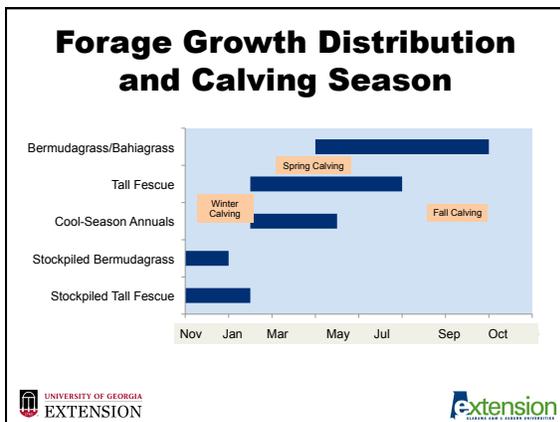


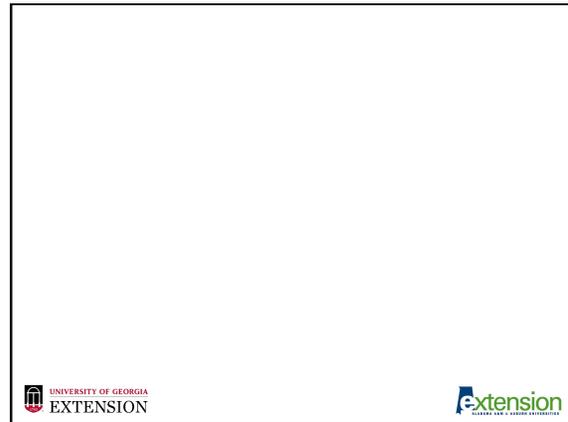
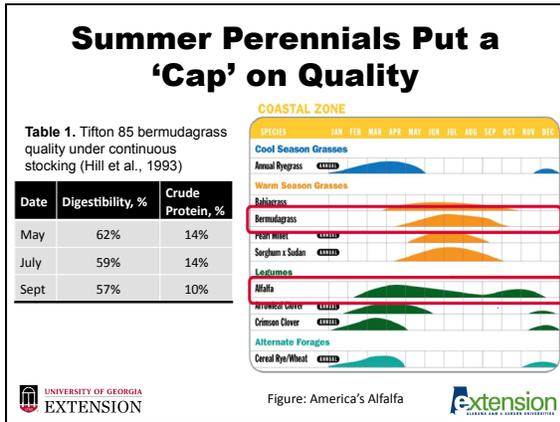


Becoming a Better Forage Manager Starts with Knowing What You Have

- What is your forage base?
- How many days a year do I currently feed hay?
- What is my stocking rate?
- What is my estimated forage utilization?

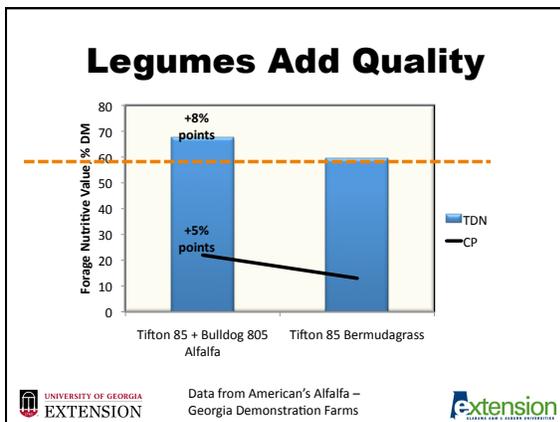




How Can We Improve Them?

- Adding diversity to the system
- Use a mixture that is complementary – not either/or approach
 - Legumes alone vs. grass alone comparison



Legumes Can Have a Positive Influence on Intake

- Improves:
 - rate of forage digestion
 - nitrogen balance in rumen when low-quality forage is supplemented
- Secondary metabolites may be present – saponins
 - Effects still unclear

Table 1. Steer intake of alfalfa or alfalfa-tall fescue mixed pastures under continuous stocking.

Pasture Composition	% Forage Use	Total forage intake, g/min/steer
Alfalfa	53	14.8
2/3 Alfalfa	65	16.6
1/3 Alfalfa	50	13.4
AU Triumph Tall Fescue	45	11.5

Seman et al., 1999; Niderkorn and Beaumont, 2009

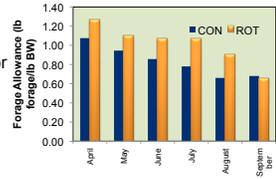
Quality and Intake = Less Supplementation

Hay Quality	Class of cattle	Dry matter capacity, % of BW
Low quality (less than 52% TDN, 8% CP)	Dry cows	1.5
	Lactating cows	2.0
Average quality (52 to 56% TDN, 9 - 12% CP)	Dry cows	2.0
	Lactating cows	2.3
High quality (> 56% TDN, 12% CP)	Dry cows	2.5
	Lactating cows	2.7

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Animal Performance Expectations - Grazing

- Stand persistence
 - 35 to 50% in Yr 1 and 2 for CON, Decreased to 14% in Yr 3
 - ROT maintained ~30% or greater over 3 years
- Greater nutritive value and forage allowance in ROT vs. CON
- Gain per acre: 580 lb/ac



Data from Beck et al., 2017

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Animal Performance Expectations – Conserved Forage

Average baleage quality of mixed alfalfa-bermudagrass

- 65 to 67% TDN
- 14 to 16% CP
- Meets needs of:
 - Cow-calf pair in peak lactation
 - Steers – gaining 2.0 lb per day



UNIVERSITY OF GEORGIA EXTENSION Data from Hendricks, unpublished extension

FORAGE MANAGEMENT STRATEGIES AND ANIMAL PERFORMANCE IMPLICATIONS

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Alfalfa-Bermudagrass Harvest Management

Agronomic Recommendations	Animal Implications
<ul style="list-style-type: none"> • Harvest alfalfa at early to mid bloom stage <ul style="list-style-type: none"> – Often April/May depending on region and weather conditions • General harvest frequency of 28 to 35 days thereafter in Coastal Plain region 	<ul style="list-style-type: none"> • First harvest has greater proportion of alfalfa – increased quality • Maintenance of timely harvests = greatest quality potential

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Alfalfa-Bermudagrass Grazing Management

- Under similar stocking rates, no animal performance differences in CON vs. ROT stocking (Beck et al., 2017)
- However, can management recommendations be refined to determine if rotational systems can support greater stocking rates?



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Grazing Recommendations Still Need to Be Refined

Height + Frequency = Grazing Management

USDA United States Department of Agriculture
 National Institute of Food and Agriculture

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HOW MIGHT THIS FIT IN YOUR SYSTEM?

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Where Do I Have the Greatest Need?

- Cows
- Calves
- Replacement females

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Preconditioning with Baleage

- Evaluate whether market conditions are favorable for backgrounding
- Target ADG ~ 2.5 lb/d
- Depending on quality, may be achievable with forage alone or with some additional supplementation
 - Fiber-based byproduct supplements complement this system well
 - Soyhulls, corn gluten feed, etc.

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Creep Grazing

- Allows access to high-quality forage
 - As early as 3 to 4 months of age
- Calves must be trained to this system
- Familiarizes them with the pasture area

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Creating a creep access point: www.aces.edu/go/903

Creep Grazing Followed by Fenceline Weaning

- Calves are used to pasture area where they are being weaned
- Can see/smell/touch COWS

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Today's Talk In Review

- Legumes can improve forage systems for beef cattle
 - Quality
 - Intake
- Match improvements in quality to areas of increased/greatest demand in the herd
- Ask if this is a fit for your specific system



Questions?

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