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LEGUME OPTIONS FOR BALEAGE

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GRASS
www.georgiaforages.com

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- In General – Annual Grasses perform better in a baleage production system
- Grasses tend to ferment better than legumes – more water-soluble carbohydrates
- However, Legumes can be successful
- Especially in a mixture!

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Advantages of Legumes produced as Baleage

- Reduced Leaf Shatter
- Reduced Dry Matter loss
- "Ideal" Stage of Maturity can occur during challenging weather periods
 - Baleage decreases weather impacts helping to maintain quality
- Harvest at the right stage of maturity
 - Bud to Early Bloom in Legumes (Ideal 10% bloom)

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Legume Options for Baleage

Cool Season	Warm Season
■ Red Clover	■ Alyce clover
■ White Clover	■ Cow Peas
■ Arrowleaf Clover	■ Forage Soybeans
■ Crimson Clover	

ALFALFA

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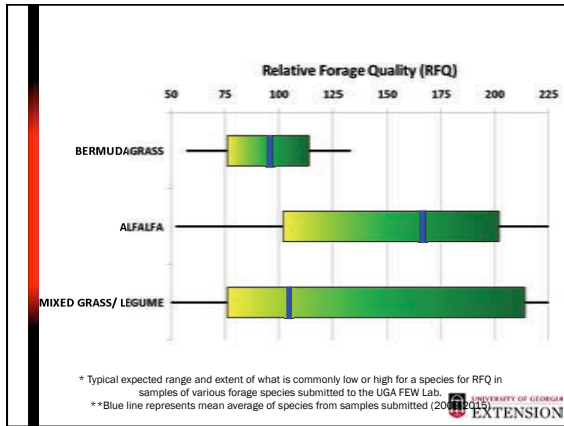
Let's MIX IT UP!

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Adding Legumes to Grass Improves Forage Quality!

Palatability
Intake
Digestibility
Nutrient Content
Animal Performance

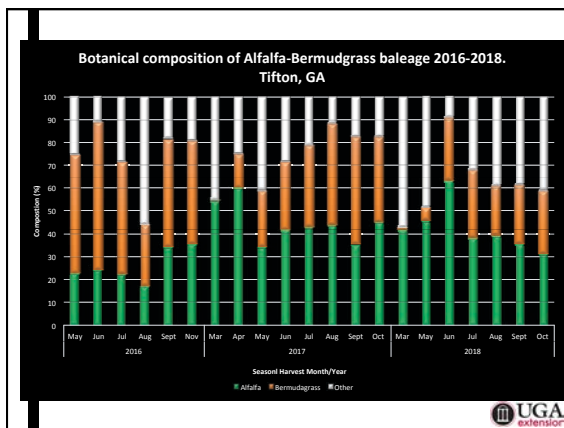
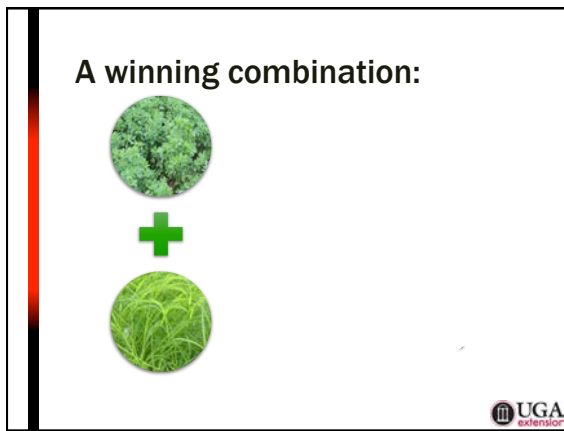


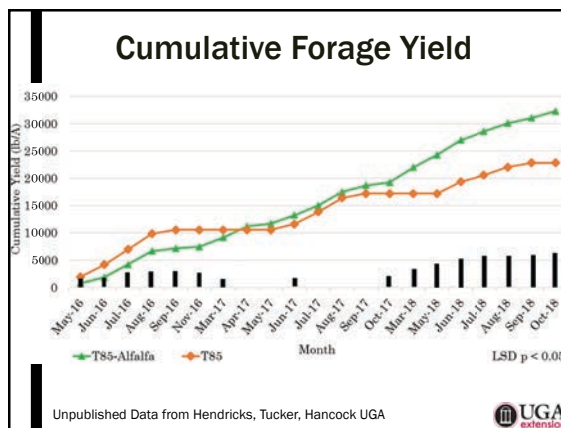
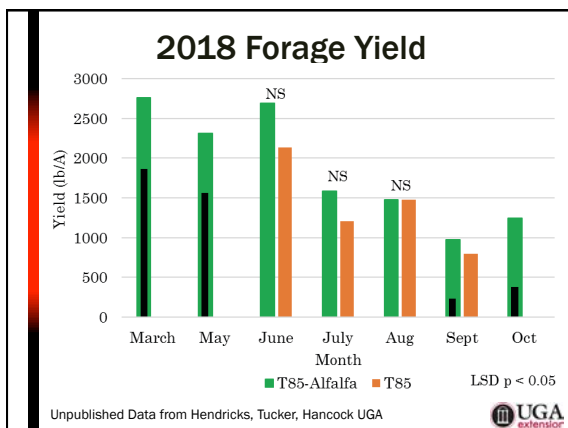
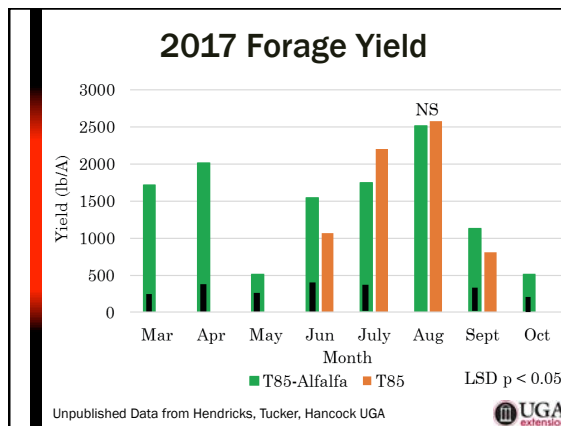
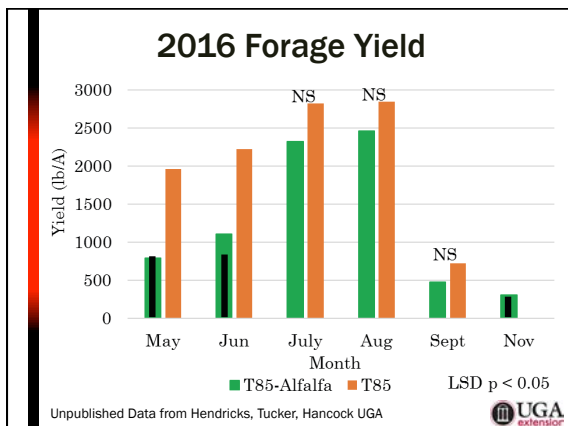


Forage Quality Parameters for Selected Forage Crops

Crop	Maturity	CP	TDN	NDF	ADF
Bermudagrass	4 weeks old	10-12	52-58	33-38	63-68
	8 weeks old	6-8	45-50	40-45	70-75
Alfalfa	Bud	22-26	64-67	28-32	38-47
	Early Flower	18-22	64-64	32-36	42-50
	Mid Bloom	14-18	58-61	36-40	46-55
	Full Bloom	9-13	50-57	41-43	56-60

Source: Adapted from J.C. Henning and G.D. Lacefield, University of Kentucky





Year	T85-ALF					T85						
	ADF	NDF	CP	IVTD	TDN	RFG	ADF	NDF	CP	IVTD	TDN	RFG
2016												
May	38.9	63.3	8.2	68.9	56.3	81	40.3	71.9	6.1	62.3	49.5	59
Jun	27.8	48.5	15.2	81.6	62.5	118	29.3	57.9	15.0	77.5	58.4	94
Jul	33.5	48.5	11.9	77.2	60.0	101	33.8	63.7	12.0	73.6	56.1	82
Aug	33.3	55.1	12.0	78.4	59.9	101	33.7	62.0	9.4	72.4	56.3	82
Sept	30.8	49.2	15.1	78.2	60.0	109	32.1	62.1	11.3	72.7	55.7	80
Nov	24.2	34.7	21.1	80.9	63.2	154						
Seasonal Average	31.4	49.9	13.9	77.5	60.3	110	33.8	63.5	10.8	71.7	55.2	80
(-May)	29.9	47.2	15.1	79.3	61.1	116	32.2	61.4	11.9	74.1	56.6	85
2017												
Mar	25.6	35.0	19.1	85.0	65.1	160						
Apr	25.7	34.0	24.3	84.6	64.4	162						
May	25.3	32.9	22.7	81.3	63.6	162						
Jun	26.7	39.7	20.9	82.5	62.6	138	31.1	60.2	11.2	73.9	57.3	87
Jul	27.8	44.7	22.2	82.2	60.8	119	33.6	56.7	19.0	75.4	53.7	82
Aug	29.1	45.9	20.2	80.0	60.1	114	35.7	63.0	12.5	70.2	52.7	72
Sept	24.8	38.0	22.2	84.5	63.7	145	31.1	59.6	11.8	72.0	55.7	81
Seasonal Average	26.4	38.6	21.6	82.9	62.9	143	32.9	59.9	13.6	72.9	54.8	80
2018												
Mar	26.5	35.3	22.7	82.1	63.1	151						
Apr	25.2	35.3	22.6	83.5	64.5	156						
May	31.7	42.7	22.1	78.5	57.8	114	30.8	59.8	15.8	77.2	56.6	91
Jun	33.2	44.1	16.4	78.2	60.1	115	33.7	67.1	10.2	70.4	55.3	77
Jul	34.1	44.2	17.3	78.7	59.9	115	32.2	59.2	12.9	78.2	57.4	83
Aug	30.8	45.3	17.9	78.7	60.0	113	33.7	61.4	11.2	73.1	55.6	82
Sept	31.6	44.8	18.3	75.8	58.5	109						
Seasonal Average	30.4	41.7	19.9	79.3	60.6	125	32.6	61.9	12.5	74.7	56.2	86



2019 Baleage and Silage Short Course: Legume Options for Baleage

Dr. Jennifer Tucker
UGA Asst. Prof., Animal and Dairy Scientist

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Seasonal CP and TDN T85 with and without Alfalfa

	T85+Alf		T85	
	CP	TDN	CP	TDN
2016	15	12	61	57
2017	22	14	63	55
2018	20	13	61	56

Unpublished Data from Hendricks, Tucker, Hancock UGA

Nutrient requirements of different classes of cattle

Class of Animal	Stage of Production	TDN % Required	CP % Required
Mature Cows	Dry Pregnant	48	7
	Peak Lactation	60	12
	Late Lactation	55	9
1 st calf Heifers	-----	62	12
Growing calves (500 lb)	-----	61	11

Kim Mullenix, Auburn University
Adapted from NRC for Beef Cattle 7th ed. (2000)


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Conclusion:



Alfalfa-bermudagrass baleage production is a viable option for improved forage quality, yield, and profitability for Southeastern forage producers!



Alfalfa in the South Workshop

May 7, 2019
Cattlemen's Park
4100 US Hwy 231 South, Troy, Alabama
8:30 AM to 3:00 PM

SPONSORS:



Questions?

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www.ugabeef.com



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