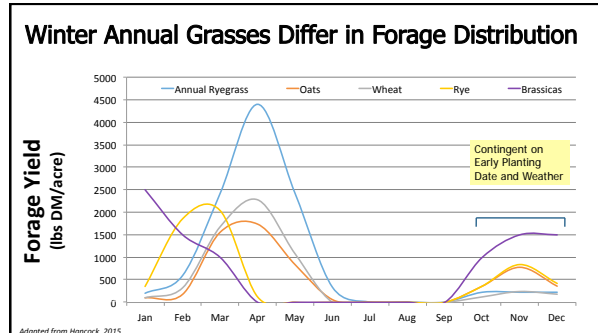
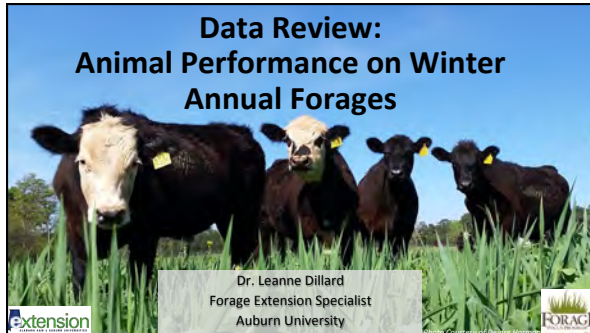


2018 Georgia Grazing School: Data Review: Animal Performance on Winter Annual Forages

Dr. Leanne Dillard
Asst. Professor & Extension Specialist



Cool-Season Annual Forage Quality

Species	Crude Protein	Total Digestible Nutrients	Annual Yield*
	%	%	lbs DM/acre
Annual Ryegrass	10-20	56-74	10,630
Oats	8-14	55-70	7,100
Wheat	8-14	52-70	7,110
Rye	8-14	50-70	4,850
Arrowleaf	14-17	56-75	3,470
Crimson	14-16	57-75	3,570

*Quality ranges are approximate and are highly dependant upon forage maturity at grazing/harvest. Yields are 3-yr averages from GA and AL.

extension
FORAGE

How does soil preparation affect cattle gains?

Effect of tillage system on grazing days and gain/acre of wheat pastures in Northeastern Arkansas

		Tillage Method ¹		
		CT	RT	NT
Fall	Grazing d/acre	107	110	110
	Gain/acre	232	248	251
Spring	Grazing d/acre	121	123	121
	Gain/acre	238	257	264
Total Grazing Season	Grazing d/acre	228	232	231
	Gain/acre	470	506	515

¹CT = conventional tillage; RT = reduced tillage; NT = no-tillage

Morgan et al., 2012

extension
FORAGE

How does stocking rate affect cattle gains?

Effect of stocking rate on grazing days and gain/acre of wheat pastures in Northeastern Arkansas

		Stocking Rate ¹		
		0.75	1.0	1.5
Fall	Grazing d/acre	79	105	142
	Gain/acre	197	236	298
Spring	Grazing d/acre	132	120	113
	Gain/acre	300	223	236
Total Grazing Season	Grazing d/acre	211	226	255
	Gain/acre	497	459	541

¹Steers per acre

Morgan et al., 2012

extension
FORAGE

How do soil prep and stocking rate interact?

Interactive effects of fall stocking rate and tillage on gain/acre

Fall Stocking Rate	CT	RT	NT
0.75	553 ^{ax}	575 ^{ax}	546 ^{ax}
1.0	481 ^{ax}	552 ^{ax}	514 ^{ax}
1.5	550 ^{ax}	575 ^{ax}	675 ^{by}

¹CT = conventional tillage; RT = reduced tillage; NT = no-tillage

Morgan et al., 2012

extension
FORAGE

2018 Georgia Grazing School: Data Review: Animal Performance on Winter Annual Forages

Dr. Leanne Dillard
Asst. Professor & Extension Specialist

Monoculture vs. Mixtures				
		ADG lb/d	Animal grazing days d/acre	Gain per Acre lb/acre
Pereira et al., 2009	Rye	2.7	212 ^a	379 ^b
	Oats	2.9	223 ^a	449 ^a
	ARG	3.1	181 ^b	362 ^b
Mullenix et al., 2012	Rye + ARG	2.5 ^b	221	553
	Oats + ARG	3.0 ^a	265	795
	R + O + ARG	2.8 ^a	253	708
Mullenix et al., 2014	Wheat	3.0 ^{ab}	201 ^a	603
	Triticale	2.7 ^b	168 ^b	454
	ARG	3.3 ^a	164 ^b	541
Marchant et al., 2014	Wheat + ARG	3.3	153	497
	Triticale + ARG	3.2	151	483
	W + T + ARG	3.1	151	465

*All data from consecutive stocker cattle research using the same field at Wiregrass REC in Headland, AL.

Are there other options for winter grazing?



Photo Courtesy of Univ. of Arkansas Extension.

Adding Legumes to Winter Grazing

Effect of overseeding cool-season annuals and clover into a 'Coastal' bermudagrass sod

Species overseeded on Coastal bermudagrass sod	N applied annually	Dates on pasture	Grazing days	Cow ADG (lb)	Calf ADG (lb)
Rye-arrowleaf and crimson clovers	112	1/8 – 10/5	268	0.9	1.9
Arrowleaf and crimson clovers	0	3/11 – 10/5	211	1.4	2.0
Ryegrass	168	2/14 – 10/5	240	0.8	1.8
None	112	4/6 – 10/5	187	0.5	1.6

Hoveland et al., 1978

Adding Legumes to Winter Grazing

Effect of replacing N fertilizer with white clover on performance of growing steers in the fall grazing season over 4 yr

Item	WRG+N ¹	WRG+CL
Fall		
Final BW, lb	660	634
ADG, lb/d	2.4	2.1
Grazing days	57	43
Spring		
Final BW, lb	717	708
ADG, lb/d	3.0	2.5
Grazing days	62	72

¹WRG+N = wheat-annual ryegrass pastures with synthetic N fertilizer applied in the fall and spring; WRG+CL = wheat-annual ryegrass pastures with white clover to replace N fertilizer; Beck et al., 2012



Photo Courtesy of Christina Curell

Adding Legumes to Winter Grazing

Effect of replacing N fertilizer with white clover on grazing days per hectare, BW gain per hectare, pasture cost of gain, value of gain per hectare, and net return over 4 yr

Item	WRG+N ¹	WRG+CL
Grazing days per hectare	242	249
BW gain, lb/ha	629	580
Pasture cost of gain, \$/lb	0.72	0.60
Value of gain, \$/acre	119.29	219.38
Net return, \$/acre	85.23	142.10

¹WRG+N = wheat-annual ryegrass pastures with synthetic N fertilizer applied in fall and spring; WRG+CL = wheat-annual ryegrass pastures with white clover to replace N fertilizer

Beck et al., 2012

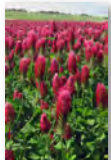


Photo courtesy of USDA National Soil Dynamics Laboratory

Adding Brassicas to Winter Grazing

ADG (lb/d) of young sheep grazing brassica or legume pastures

	Grass-Clover		Legumes
	Brassicas	Pasture	
Kale	0.26	0.24	n.d.
Forage Turnip	0.49	0.35	0.69 (White Clover)
Forage Turnip	0.29	0.33	0.29 (Red Clover)
Kale	0.60	0.33	0.29 (Red Clover)

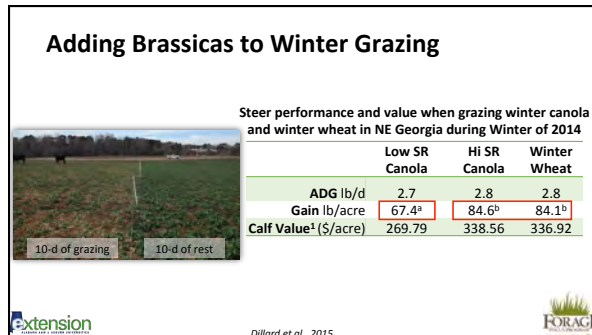
Photo Courtesy of Univ. of Arkansas Extension.



Adapted from Barry, 2013

2018 Georgia Grazing School: Data Review: Animal Performance on Winter Annual Forages

Dr. Leanne Dillard
Asst. Professor & Extension Specialist



For more information:

Email
alabamaforages@auburn.edu

Websites
www.alabamaforages.com
facebook.com/ForageFocus
@AlabamaForages

TEST ALABAMA

FORAGE FOCUS PROGRAM
Growing Grass - Growing Profits

Prove Your Hay is the Best.
Participate in the National Hay Quality Contest and win prizes for your hay.

extension