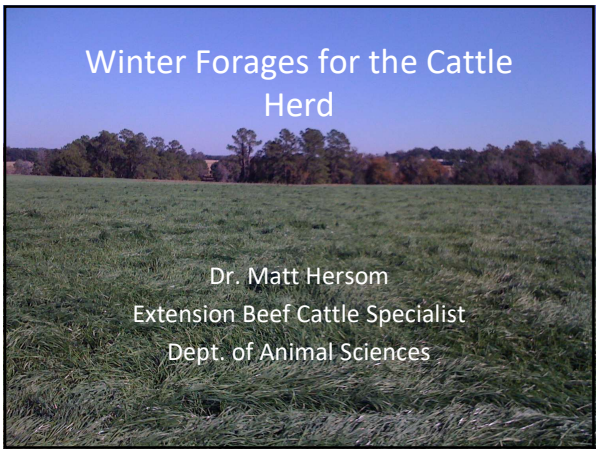
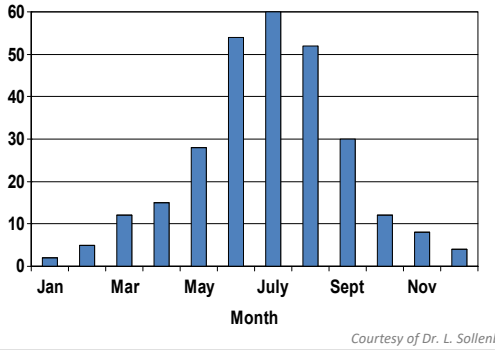


Seasonality of Growth

- Unfortunately, no single forage grows year round or remains high in quality year round
- Let's look at seasonality and bahiagrass.

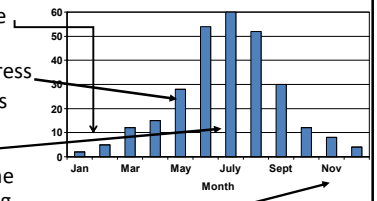
Bahiagrass Seasonality in Forage DM Production (lb/acre/day)



Courtesy of Dr. L. Sollenberger

Seasonality

- Cold temperature limitation
- Likely drought stress
- High growth rates mean that more forage is being produced than the animals are eating
- Growth slows because days are shorter; plants prepare for winter.

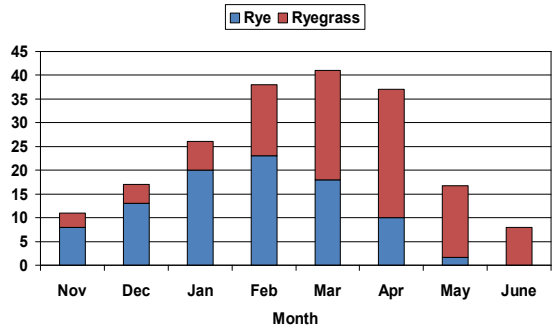


Courtesy of Dr. L. Sollenberger

Season of Growth

- What can we do about seasonality?
- Unfortunately, no single forage grows year round or remains high in quality year round
- In North Florida, South Georgia, and South Alabama, year-round forage production systems can be put together that minimize periods of quantity and quality short fall.

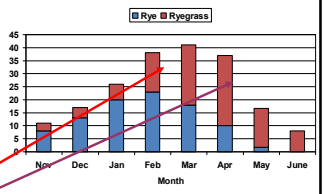
Rye-Ryegrass Seasonality of Forage Production (lb/acre/day)



Courtesy of Dr. L. Sollenberger

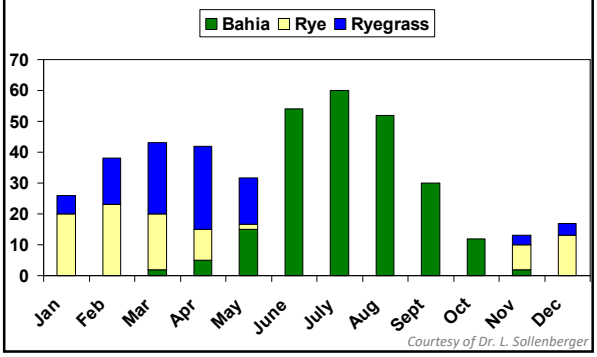
Seasonality of Cool-Season Grasses

- Small grain more productive earlier
- Ryegrass most productive in spring as small grain starts to fade
- Clovers
  - Crimson
  - Red



Courtesy of Dr. L. Sollenberger

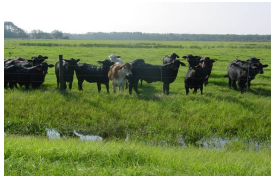
Adding Rye-Ryegrass to Bahia: Forage Production (lb/acre/day)



Courtesy of Dr. L. Sollenberger

Where Can Winter Annuals Be Used

- Stocker Cattle
- Replacement Heifers
- Gestating Cows
- Lactating Cows



Can Winter Forage Feed Cattle

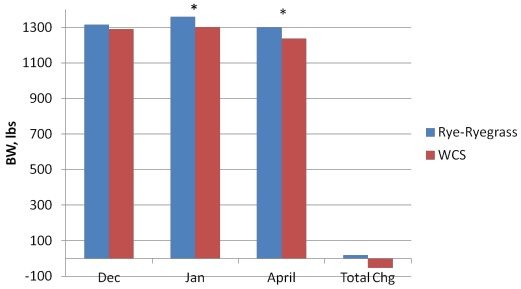
	DMI, lb/d	TDN, %	CP, %	NDF, %
Mature Cow*	27.8	59.9	11.0	
Growing Calf^	19.7	60	9.7	
	Estimated DMI			
Rye	42 / 25	67	30	42
Triticale	42 / 25	62	25	43
Oat	39 / 23	62	19	46
Ryegrass	39 / 23	65	19	47

* 1200 lb, moderate milk, 2 month after calving
^ 720 lb, 2.00 ADG, 1200 lb at finishing
Forage estimates from UF Dairy Variety Trial

Chemical Composition of Supplements and Hay

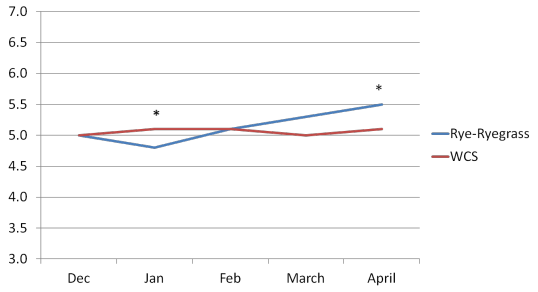
		Supplement System		
Item	Month	Rye-Ryegrass	WCS	Hay
CP, %	December	20.00	-	7.0
	January	17.1	23.2	9.2
	February	21.5	27.4	10.0
	March	18.6	26.0	9.4
	April	14.5	26.8	9.3
IVDMD,%	December	70	-	58
	January	69	57	57
	February	67	73	63
	March	60	64	59
	April	50	70	63

Effect of Winter Supplement on Cow Bodyweight



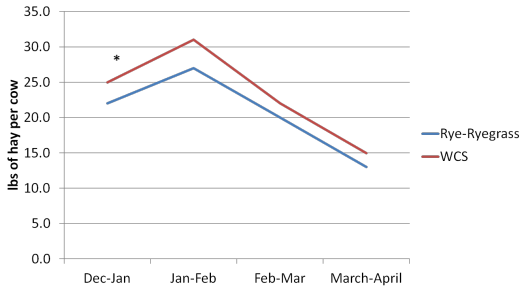
* Means are differ P<0.05

Effect of Winter Supplement on Cow Body Condition Score



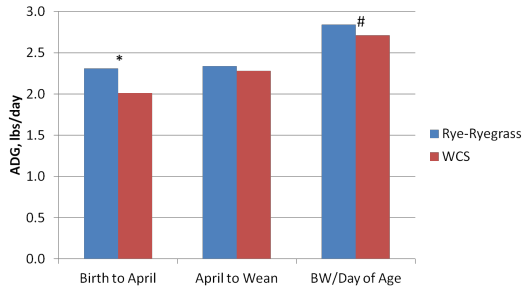
* Means are differ P<0.05

Effect of Winter Supplement on Calculated Hay Disappearance



* Means are differ P<0.05

Effect of Winter Supplement on Calf Bodyweight Gain



* Means differ P<0.05 # Means differ P<0.10

Results - Reproduction

	Supplement System	
Item	Rye-Ryegrass	WCS
Estrous response, %	78.4, (29/37)[a]	50.0, (17/34)[b]
Conception rate, %	51.7, (15/29) [a]	82.4, (14/17)[b]
Timed-AI response, %	25.0, (2/8)	52.9, (9/17)
Synchronized pregnancy rate, %	46.0, (17/37)	67.7, (23/34)
Thirty-day pregnancy rate, %	67.5, (27/40)	70.0, (28/40)
Breeding season pregnancy rate, %	90.0, (36/40)	90.0, (36/40)

Differing superscripts denoted difference (P < 0.05)

System Economic Analysis

	Supplement System	
Expenses per cow, $	Rye-Ryegrass	WCS
Field Preparation	28.36	-
Fertilizer	49.02	-
Seed	19.33	-
Water	13.13	-
Feed Cost		
Hay	127.63	145.25
WCS	-	101.00
Total Cost	237.47	246.25

Summary

- Winter annuals can be an acceptable alternative to commodity supplements
  - Maintain cow BCS
  - Similar Reproduction
  - Improve calf performance
  - Decrease hay use
- Use of winter annual pasture in a winter supplementation program can decrease producer costs and possibly increase revenue from calves