

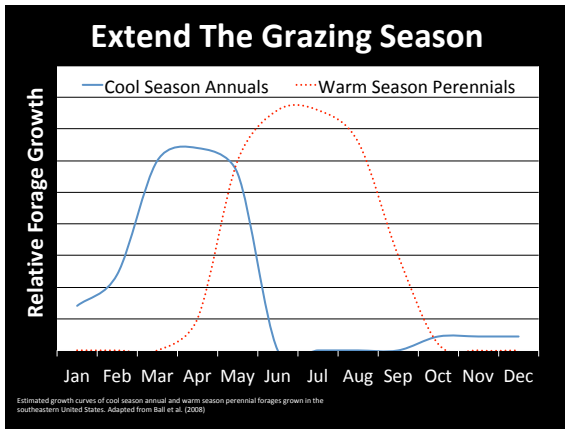
2018 Georgia Grazing School: Winter Annual Species and Variety Selection

Taylor Denman
Program Coordinator



Why Use Winter Annual Forages?

- **Extend The Grazing Season**
 - Utilize Warm Season and Cool Season Forages
 - Decrease Days on Hay



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- **Quality Forage**
 - Meet Requirements of High Demanding Livestock

Winter Annual Forage Quality

Species	Crude		Annual Yield*
	Protein	TDN	
	----- %	-----	lbs DM/acre
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

Dry Cow:
CP: 7%
TDN: 48%

Late Lactation:
CP: 9%
TDN: 55%

Peak Lactation:
CP: 12%
TDN: 60%

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

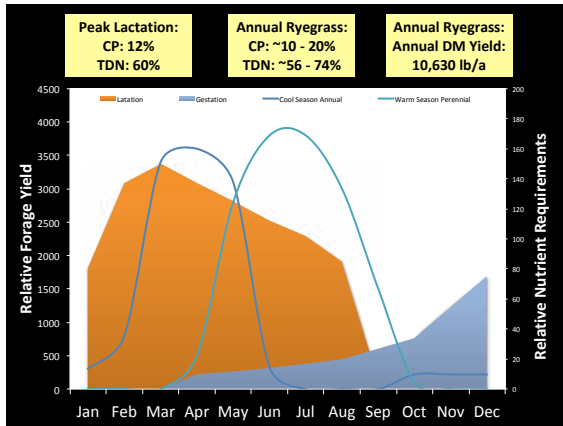
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- **Quality Forage**
 - Meet Requirements of High Demanding Livestock
- **SAVE MONEY!**
 - Supplementation Requirements



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UGA Feed Cost Analyzer

COOPERATIVE EXTENSION

Dr. Gordon Strawn, Animal and Dairy Science
Dr. Earl Long, Agriculture and Animal Economics
Dr. Richard Henrick, Cattle and Soil Science
Local Extension Office: 1-800-454-UGA

Ingredient	Elbon	W 100	N 16	N 20	N 24	CP	TDN	DM
Steel grade pasture	5	12	22.0	14.0	70.0	2.04	0.128	0.041
Alle. Ryegrass (winter)	5	30	22.0	20.0	70.0	2.27	0.134	0.030
Alle. Ryegrass (summer)	5	30	22.0	18.0	60.0	1.98	0.122	0.026
Intermediate Ryegrass	5	100	51.0	13.0	13.0	1.98	0.148	0.111

How Can You Get The Most Out of your Winter Annuals?

- Select the Proper Species and Variety
 - Some varieties do better at different locations
 - Some varieties are later maturing than others

<p>Oats</p> <ul style="list-style-type: none"> Very palatable to livestock Cold Intolerant Can harvest for seed Crown rust Barley Yellow Dwarf Virus (BYDV) Stem Rust (on occasion) 	<p>Wheat</p> <ul style="list-style-type: none"> Less productive than oats or rye Not much growth in the fall but good growth in the spring Short grazing window Good dual purpose crop
<p>Rye</p> <ul style="list-style-type: none"> Aggressive early fall growth Tolerates wide range of pH Tolerates sandy soil and low fertility Higher seed cost 	<p>Annual Ryegrass</p> <ul style="list-style-type: none"> Produces significant forage yield Highly productive in early spring Intolerant to drought

Oats

Adaptation	South and central GA. Soil pH should be kept above 6.0 for best results.
Maturity	Early (if planted early); Late (if grown for hay)
Cold Tolerance	Poor
Problems	Oat can be winterkilled in some years. If grazed early, later growth is very poor.
Varieties	Horizon 720, Horizon 306, NF 402, Legend 567, SS76-40 (P), and RAM LA99016.

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Rye (cereal rye)

Adaptation	Entire state. More tolerant of soil acidity than oat or wheat.
Maturity	Early to very early
Cold Tolerance	Excellent
Problems	Rye will mature quickly and quality may decline fast. Timely grazing or harvest management will be required.
Varieties	FL 104, Bates RS4, Elbon (C), Maton (C), Maton II, Oklon, and Wrens Abruzzi Early: FL 401 (CP)


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Wheat


Adaptation	Entire state. Not tolerant of soil acidity.
Maturity	Medium late
Cold Tolerance	Good
Problems	Late as ryegrass, but not as high yielding.
Varieties	AGS 2024, AGS 2033 (C), AGS 2038, Dyna-Gro Savoy, GrazeAll, Pioneer 26R94 (C), SRW9410 (SS 8629), and SS8641



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Annual Ryegrass

Adaptation	Entire state. Tolerates poor drainage and close grazing. Soil pH should be kept above 6.0 for best results.
Maturity	Late
Cold Tolerance	Good
Problems	Interferes with bermudagrass emergence mechanism: (?) competition, luxury K uptake, allelopathy



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Annual Ryegrass

Varieties	<p>Early Varieties: Andes (C), Attain, Big Boss, Credence, Diamond T (C), Earlyloid, Flying A, Fria (M), Jumbo, Lonestar, Marshall**, Maximus, Nelson, Prine, TAMTBO, Tetrastar, and Winterhawk (M).</p> <p>Late Varieties: Andes (C), Attain, Big Boss, Jumbo, Marshall**, Maximus, Nelson, Prine, TAMTBO, and Tetrastar</p> <p>Season-Long: Andes (C), Attain, Big Boss, Credence, Diamond T (C), Earlyloid, Flying A (C), Fria (M), Grazer (P,M), Jackson (C), Jumbo, Lonestar, Marshall**, Maximus, Nelson, Passerel Plus, Prine, TAMTBO, Tetrastar, and Winterhawk (P,M)</p>
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** Highly susceptible to crown rust.



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- **Get a Good Stand**
 - Seeding Rate
 - Planting Method



Establishment

<p>Planting Depth</p> <ul style="list-style-type: none"> • Small Grains <ul style="list-style-type: none"> • Plant at 1 - 1½ inches • Ryegrass and Clover <ul style="list-style-type: none"> • Plant at ¼ - ½ inches 	<p>Planting Timing</p> <ul style="list-style-type: none"> • Mountain Region <ul style="list-style-type: none"> • Late August - Early October • Piedmont Region <ul style="list-style-type: none"> • Early September - Early October • Coastal Plains Region <ul style="list-style-type: none"> • Late September - Late October
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Recommended Seeding Rates

Species	Grown Alone*	Mixture*
	----- lbs seed/acre -----	
Ryegrass	25-30	15-25
Oats	90-120	60-90
Wheat	90-120	60-90
Rye	90-120	60-90
Arrowleaf	6-8	5-6
Crimson	20-30	10-15

- If broadcast, use the high end of the range. If drilled, use the low end of the range.

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Prepared Seedbed vs. Sodseeded

- Methods of winter annual establishment
 - Prepared seedbed (conventional till/drill)
 - Sodseeded
 - Drill
 - Broadcast w/ or w/o dragging or disking
- Winter annual grass yields in late fall/early winter are ~50% greater in prepared seedbed than when sodseeded.
 - Best if planted early (e.g., oats or rye)
- Little or no difference in total yields
 - Except oats, if grazed early.

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- **Fertilize**
 - Soil Sampling

Fertilization

At Planting	• 40 – 50 lbs N/a
Mid - Winter	• 40 – 50 lbs N/a
Ryegrass	• 40 – 50 lbs N/a • Late Spring Grazing

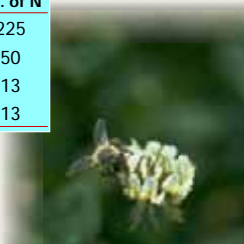
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 - Soil Sampling
- **Consider Forage Mixtures**
 - Legumes help fix nitrogen
 - Different varieties and species to manipulate grazing season




Benefits of Adding Legumes

Species	Annual lbs (N/acre)	N value at \$0.75/lb. of N
Alfalfa	200-300	\$150-225
Red clover	100-200	\$75-150
White clover	100-150	\$75-113
Annual clover	50-150	\$38-113



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Value of Annual Legume Establishment

Species	Cost of Adding Legume to Ryegrass		N Needed to BE*	Expected N Fixation
	cost/lb	cost/acre		
Arrowleaf	\$2.00	\$12	16	50-110
Crimson	\$1.80	\$27	36	70-140
Red Clover	\$3.00	\$24	32	50-130

* Amount of N that the seed cost/acre would have purchased (e.g., \$12 per acre / \$0.75 per lb of N = 16 lbs of N fixed per acre)

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