



2016

Annual Ryegrass Performance in Mississippi: Five-year Yield Summary



MS AGRICULTURAL AND FORESTRY EXPERIMENT STATION



Center for Forage Management & Environmental Stewardship



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Annual Ryegrass

Annual ryegrass is the most important and versatile cool-season annual grass for livestock producers in Mississippi. In pasture and hay systems, annual ryegrass is a popular forage because of its ease of establishment, high nutritive value, high yields, good reseeding ability, and adaptability to a wide range of soil types. Annual ryegrass can be established in pure stands or mixed with small grains and/or clovers for cool-season forage production. For these reasons, annual ryegrass is a staple for many cool season grazing programs in Mississippi. Planting date varies with location. Overall, the best planting time is mid-September for prepared seedbed or late October if overseeded on a warm-season perennial grass pasture. Seeding rates are 25-30 lb/A for pure stands (higher rate for sod seeding) and 20 lb/A for mixtures with small grains and/or clovers. Annual ryegrass grows best at a soil pH of 6.0 to 7.0. Phosphorus and potassium levels should be above the medium range for optimum yields. Annual ryegrass is very responsive to nitrogen fertilizer and its use should be split into two to four applications during the growing season. The first nitrogen application should occur when the seedlings have germinated and are 2 to 3 inches tall. When established with clovers, a single nitrogen application in early winter is often recommended to limit annual ryegrass competition with the clover. Reasonable productivity can be expected from mid-November to mid-May in the southern part of Mississippi and February to early May in the northern part of Mississippi. Annual ryegrass should normally be allowed to reach a height of 8 to 10 inches before grazing begins. Typical stocking rates are 700 lb live weight per acre in winter and 1,400–2,000 lb live weight per acre in spring.

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Variety	Ploidy Level	Holly Springs	Starkville	Newton	Poplarville	State Avg.	RY (%)
Bulldog Grazer	Diploid	4305	5041	5032	5799	5044	-6.5
Ed	Diploid	3309	4611	6237	5897	5014	-7.1
Flying A	Diploid	4913	4977	5874	6785	5637	4.5
Fria	Diploid	5079	4443	5766	6923	5553	2.9
Jackson	Diploid	4726	4903	5852	5775	5314	-1.5
Lonestar	Diploid	4696	5411	5856	7120	5771	7.0
Marshall	Diploid	4046	5885	6839	6660	5858	8.6
Winterhawk	Diploid	4972	5552	5835	6892	5813	7.7
Attain	Tetraploid	4291	4937	6706	6929	5716	5.9
Big Boss	Tetraploid	3649	3632	4048	4775	4026	-25.4
Diamond T	Tetraploid	4181	5950	6914	7397	6111	13.2
Earlyploid	Tetraploid	3462	5847	7635	5600	5636	4.5
Jumbo	Tetraploid	4396	4579	5743	5941	5165	-4.3
Maximus	Tetraploid	4301	4969	5904	6642	5454	1.1
Nelson	Tetraploid	4389	4849	5314	6974	5382	-0.3
Prine	Tetraploid	3927	4774	6073	6418	5298	-1.8
TAMTBO	Tetraploid	4449	4600	5103	6459	5153	-4.5
Tetrastar	Tetraploid	4355	4626	5729	6015	5181	-4.0
Location Avg.		4303	4977	5914	6389	5396	--
Relative Yield (%)		-20.3	-7.8	9.6	18.4	--	--

Note: This summary contains commercial varieties that have been tested in the performance trials for a minimum of two years across all locations from fall of 2011 to spring of 2016.

Ploidy level refers to the number of chromosome sets in a biological cell and is often used in characterizing ryegrass varieties as either diploid (2x) or tetraploid (4x). Whether ploidy level is advantageous to a specific variety in regards to performance is more dependent on location.

Relative Yield (RY) is the potential of annual ryegrass to perform well at a specific location when compared to the overall state average biomass production.

Relative yield (RY) was calculated as the percent increase in yield when comparing the average state performance of a variety to the overall state average, $RY = ((Agv. Var - Avg. State)/Avg. State)*100$

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Classification of Annual Ryegrass Varieties Based on Ploidy Level

Annual Ryegrass Variety	Ploidy Level	Annual Ryegrass Variety	Ploidy Level
IS-LWD 8*	Unkown	Andes	Tetraploid
07-WW*	Diploid	Attain	Tetraploid
Abundant	Diploid	BAR LM 09124*	Tetraploid
Alamo	Diploid	BAR LM 09129*	Tetraploid
Assist	Diploid	BAR LM 09137*	Tetraploid
Avance	Diploid	BAR LM 10200*	Tetraploid
Bounty	Diploid	BAR LM 10202*	Tetraploid
Brigadier	Diploid	BAR LM 15425*	Tetraploid
Bruiser	Diploid	BAR LM 15426*	Tetraploid
Bulldog	Diploid	BAR LM 15427*	Tetraploid
DH-3	Diploid	Big Boss	Tetraploid
Ed	Diploid	Big Daddy	Tetraploid
Fantastic	Diploid	Credence	Tetraploid
Florida 80	Diploid	Diamond T	Tetraploid
Florlina	Diploid	Double Diamond	Tetraploid
Flying A	Diploid	Earlyploid	Tetraploid
Fria	Diploid	Jumbo	Tetraploid
GA-101-M*	Diploid	Maximus	Tetraploid
GALM1401*	Diploid	Meroa	Tetraploid
GALM1403*	Diploid	Nelson	Tetraploid
GO-15-LN2*	Diploid	Prine	Tetraploid
Grazer	Diploid	TAMTBO	Tetraploid
Graz-N-Go	Diploid	Tetragold	Tetraploid
Grits	Diploid	Tetrastar	Tetraploid
Gulf	Diploid	Verdure	Tetraploid
Jackson	Diploid		
King	Diploid		
Lonestar (Diploid)	Diploid		
M2GVS*	Diploid		
Magnolia	Diploid		
Marshall	Diploid		
ME4*	Diploid		
ME-94*	Diploid		
Passerel	Diploid		
Passerel Plus	Diploid		
PS12*	Diploid		
PS15*	Diploid		
Ration	Diploid		
Ribeye	Diploid		
Rio	Diploid		
Sirloin	Diploid		
Southern Star	Diploid		
Stampede	Diploid		
Surrey II	Diploid		
TAM 90	Diploid		
WD-40	Diploid		
Winterhawk	Diploid		

*Experimental varieties

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