



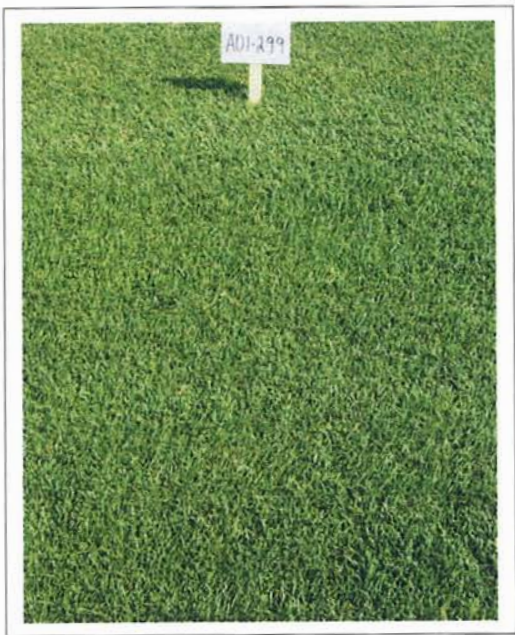
EMPIRE

KENTUCKY BLUEGRASS

Classified as an "America type" with improved color
Top performer in heat tolerance
High scores against dollar spot, leaf spot and summer patch
Top third NTEP in turf quality in all regions
Top twenty NTEP in shade and drought tolerance
Prefers full maintenance and shorter cutting heights

Kentucky Bluegrass Types and General Characteristics

- Aggressive types** - High shoot density
- America types** - compact growth with finer leaves, good resistance to dollar spot, leaf spot, susceptible to billbugs
- Bellevue types** - early spring greenup and medium to low growth
- BVMG types** - good seedling vigor, moderate winter color, susceptible to strip smut
- CELA types** - early spring greenup Less seed heads when mowed versus Bellevue types
- Cheri types** - Medium to wide leaf blades
- Common types** - early spring greenup, narrow leaves, susceptible to leaf spot
- Compact types** - Low compact growth, good leaf spot resistance, but poor spring greenup
- Julia types** - early spring greenup, good leaf spot resistance, strong wear tolerance
- Mid Atlantic types** - improved heat tolerance, vigorous root systems
- Shamrock types** - like BVMG types, good tolerance to stripe smut
- Wabash types** - medium dark green, good heat tolerance and recovery from disease
- Other types** - not defined by the previous classifications



Picture taken at Rutgers University August 2008

Seed Specification:
New Lawns:
2 to 3 pounds per 1000 square feet
or 90 to 135 # per Acre

Overseed:
1 to 2 pounds per 1000 square feet
or 45 to 90# per Acre

Dormant Winter Seeding:
same as above



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EMPIRE

KENTUCKY BLUEGRASS

2008 Data Progress Report NTEP No. 09-1 Rankings by State

Variety	IA1 Ames	IL1 Urbana	IN1 W Lafayette	KY1 Lexington	MA1 Amherst	MI1 East Lansing	MD1 College Park	MN1 St Paul	NC1 Raleigh	ND Fargo	NE1 Mead
Empire	7.1	5.4	6.8	6.5	5.8	5.8	5.0	4.7	6.9	4.8	7.3
	15	64	30	46	10	64	90	83	19	31	41
TQ High	7.4	6.7	7.5	8.0	6.1	6.8	7.0	6.7	7.6	5.8	8.1
TQ Low	5.9	4.2	4.0	4.0	3.6	4.0	3.7	2.6	4.3	4.2	6.1
LSD	0.9	0.9	0.8	0.8	0.5	1.2	1.1	1.1	1.7	1.4	3.6

Out of 110 varieties in the new NTEP trial on Bluegrass
 Variety Ranked #1
 Turf Quality Within LSD
 Highlights = Top 50

Variety	NJ2 Adelphia	NM1 Las Cruces	OK1 Stillwater	PA1 Univ Park	TN1 Knoxville	UT1 Logan	VA1 Blacksburg	WA1 Pullman	WI1 Madison	WY1 Sheridan
Empire	5.0	6.4	4.7	7.1	7.8	2.7	4.5	7.1	6.0	7.2
	82	11	40	39	13	110	82	22	33	22
TQ High	7.0	7.3	5.8	7.9	8.0	5.5	5.4	7.7	7.8	7.6
TQ Low	2.7	3.8	3.3	4.1	6.6	2.7	3.8	4.2	1.8	5.2
LSD	0.8	2.0	0.8	0.8	0.3	2.6	1.0	0.7	1.1	0.5

2008 Data Progress Report NTEP No. 09-1

Variety	Empire	High	Low	LSD
Turf Quality Summary	6.0	6.5	4.6	0.2
Turf Quality Schedule A	6.4	7.1	4.4	0.7
1 INCH OR LESS MOWING HEIGHT 3 - 4 lbs. N/1000 FT2/YEAR IRRIGATION				
Turf Quality Schedule B	6.0	6.6	4.6	0.3
1 - 2 INCH MOWING HEIGHT 3 - 4 lbs. N/1000 FT2/YEAR IRRIGATION				
Turf Quality Schedule C	5.7	6.1	4.1	0.4
2.5 - 3.5 INCH MOWING HEIGHT 0 - 2 lbs. N/1000 FT2/YEAR NO IRRIGATION				
Genetic Color	6.8	7.7	5.1	0.3
Winter Color	7.1	7.3	3.3	0.8
Leaf Texture 1=coarse	5.8	7.5	5.3	0.6
Summer Density	6.8	8.0	5.6	0.8
Fall Density	7.7	9.0	6.2	1.0
Spring Greenup	5.2	6.4	3.9	0.4
% Living Ground Cover Spring	72.0	86.5	61.6	7.2
% Living Ground Cover Summer	84.4	91.2	55.9	10.6
% Living Ground Cover Fall	90.6	94.6	76.4	6.4
Dollar Spot	7.6	8.0	5.0	1.3
Leaf Spot	7.6	8.2	3.8	0.7
Seed Head	8.5	9.0	2.5	0.9
Quality Rating Northeast Region	6.0	6.7	3.5	0.4
Quality Rating Transition Region	5.9	6.6	4.7	0.4
Quality Rating No. Central Region	6.2	6.8	4.9	0.4
Quality Rating Upper West/Mtn Region	5.7	6.4	4.4	0.5
Quality Rating Southwest Region	6.4	7.3	3.8	1.6
Quality Under Drought Stress (ND)	4.7	5.8	4.2	1.4
Quality Under Traffic Stress (NJ)	4.2	7.5	3.0	1.1
Quality Under Traffic Stress (WI)	6.3	7.8	1.4	1.0
Quality Under Traffic Stress (MI)	4.3	5.8	2.0	7.4

Top Rated
 Turf Quality Within LSD

Turf Features

Germination Time - Slow

21 to 28 days is normal in spring and fall with irrigation

Growth habit - rhizomes help recovery and sod knitting

Drought Tolerance - Good

Mowing Height - from 1/2 inch fairway cut to 3 inches

Disease Resistance

Very good resistance to dollar spot, leaf spot and summer patch

Traffic tolerance - Very Good

pH Tolerance

Ranges from 6.0 to 8.0, Ideally at 6.5

Texture

Medium leaf texture and dwarf vertical growth habit

Compatibility - with Kentucky bluegrass, fine fescue or perennial ryegrass, or 5% in tall fescue mixes

Color - Medium dark

Shade tolerance - Fair to Good

Salt tolerance - Good

Endophyte enhanced - No

Preferred use - Home and commercial lawns, sports fields, golf fairways, tees and roughs, sod production