1988 Tall Fescue Variety Trial

C. F. Mancino, D. M. Kopec, L. Salo, and R. Bermudez

Tall fescue (Festuca arundinaceae) is a coarse-textured, cool-season turfgrass that is well-adapted to the southern limits of the cool, humid regions of the United States. Its performance in this area is excellent and more consistent from one year to the next than bermudagrass or Kentucky bluegrass. Tall fescue is also the most drought-resistant and heat-hardy of the cool season grasses, making its use feasible in the arid southwest, particularly in shaded areas where bermudagrass cannot be grown.

Tall fescue plots were established on 28 October 1987 at the University of Arizona Campus Agricultural Center. Sixty-five varieties were planted with three replications per variety in a completely randomized block design. Plots are exposed to the full sun.

Individual plots (25 sq. feet) were seeded at a rate equivalent to 4.4 pounds of seed per 1000 sq. feet. The area was irrigated daily for establishment and fertilized with 1 lb N per 1000 sq. feet. Fertilizer was again applied on 29 December 1987 and 14 April 1988 at the above mentioned rate. On 17 July 1988, another light application (.25 lbs N per 1000 sq. feet) was made. Cutting height was maintained at approximately 3 inches, and mowing occurs once weekly.

On 20 December 1987, the herbicide 'Trimec' was applied to control wild mustard in the plots. 'Oftanol' was applied on 8 July 1988 for chinchbug control. The fungicide 'Fore' was applied on 1 September 1988 to control a Curvularia (grey leaf spot) outbreak during the monsoons. On 14 September 1988, the herbicide 'Image' (imizaquin) was applied for nutsedge contol. All pesticides were applied at the label-recommended rates.

Sprinkler irrigation with effluent water is being applied at a rate equivalent to 65% of the AZMET (UA Cooperative Extension Service Weather Network) calculated turfgrass evapotranspiration rate. A Toro soil moisture sensing device placed at the 4-inch depth allows the irrigation system to turn on only when soil moisture content drops below field capacity. This system appears to be working well and water stress has occurred only when water was not available to the plots due to repair of the Campus Agricultural Center's main effluent irrigation line.

Parameters measured in this variety trial include seedling vigor (1=poor,6=acceptable,9=excellent), density(1=low, 6=acceptable,9=high), percent living ground cover(0-100%), bimonthly turfgrass quality ratings (1=poor, 6=acceptable, 9=excellent),leaf texture (1=coarse,6=medium,9=fine), chinchbug damage (1=severe,6=acceptable,9=none), grey leaf spot damage (1=severe,6=acceptable,9=none)and iron chlorosis (1=severe,6=acceptable,9=none).

Varietal means for the 10 best and worst performing tall fescues are presented in Tables 1 and 2.

SUMMARY

Overall, a large majority of the 65 varieties tested did very well until the occurrence of the summer monsoons. At this time, quality for many of the tested plant materials decreased due to high temperature and humidity. Some varieties, however, performed very well during these stressful conditions. It is important to remember that this is the first year of a 5-year study. As this turf matures and is exposed to new environmental stresses, the relative rankings (particularly for quality) will change. At the end of the 5-year period, a sound recommendation can be made as to which tall fescue varieties perform well over an extended period of time and range of conditions.

Table 1. Top 10 scoring tall fescue varieties

December

Seedling Vigor	
Thoroughbred(6.3)	Ky-31(5.7)
Titan(6.0)	Falcon(5.7)
Adventure(6.0)	Mesa(5.3)
PST-5EN(5.7)	Finelawn 5GL(5.3)
Trident(5.7)	Jaguar(5.3)

April

Quality	Density	Percent living groundcover
Cimmaron(7.3)	Cimmaron(8.7)	Cimmaron(97.7)
Wrangler(7.0)	Taurus(8.3)	Rebel II(97.7)
Pick 845PN(7.0)	PST-DBC(8.3)	Trailblazer(96.3)
KWS-DUR(7.0)	Titan(8.0)	Finelawn 5GL(96.3)
Finelawn I(7.0)	Falcon(8.0)	PST-5BL(96.3)
Carefree(7.0)	Pick GH6(8.0)	PST-5EN(96.3)
Normarc 77(6.7)	Apache(8.0)	Pick 845PN(96.3)
Tip(6.7)	Tribute(8.0)	Normarc 25(96.3)
Thoroughbred(6.7)	Pick DM(8.0)	Jaguar II(96.3)
Pick 127(6.7)	Sundance(8.0)	Taurus(96.3)

June

iv .0)	Pick DDF(8.0)	PST-5MW(9.0)
KWS-BG-6(7.7)	Mesa(9.0)	Wilamette(99.0)
Normarc 25(7.3)	Pick DDF(9.0)	Mesa(99.0)
PST-5D1(7.3)	Pick 127(8.7)	Pick DDF(99.0)
PST-5MW(7.3)	PST-5DM(8.7)	PST-5DM(97.7)
Pick 127(7.0)	Willamette(8.7)	Pick 127(97.7)
Willamette(7.0)	Trident(8.7)	Trident(97.7)
Pick 845PN(7.0)	Pick SLD(8.7)	Pick SLD(97.7)
Aztec(7.0)	Thoroughbred(8.7)	Thoroughbred(97.7)
PE-7(7.0)	PST-5BL(8.7)	PST-5BL(97.7)

June (continued)

Chinchbug Damage	Leaf Texture	Iron Chlorosis
Adventure(9.0)	Pick DDF(7.0)	KWS-BG-6(9.0)
Jaguar(9.0)	PST-DM(6.7)	Normarc 25(8.3)
Trident(9.0)	KWS-BG-6(6.7)	Mesa(8.0)
PST-5AP(9.0)	PE-7E(6.3)	Pick DDF(8.0)
Pick DDF(9.0)	Pick 127(6.3)	Pick 127(7.7)
Willamette(9.0)	Pick TF9(6.3)	Thoroughbred(7.7)
Chieftan(9.0)	Thoroughbred(6.3)	Legend(7.7)
Sundance(9.0)	Legend(6.3)	Willamette(7.3)
Thoroughbred(9.0)	KWS-DUR(6.0)	PST-5OL(7.3)
PST-5EN(9.0)	Pick SLD(6.0)	Sundance(7.0)

Table 1 (continued)

August	
Quality	Curvularia Outbreak
Mesa(7.7)	Apache(9.0)
Tribute(6.7)	Mesa(9.0)
PST-5MW(6.3)	Pick 127(8.0)
Pick DM(6.3)	Titan(8.0)
Hubbard 87(6.3)	Finelawn I(8.0)
PST-5OL(6.3)	PST-5EN(8.0)
PST-5EN(6.0)	Arid(8.0)
Taurus(6.0)	Syn Ga(8.0)
Olympic(6.0)	Pick 845PN(8.0)
PST-5HF(6.0)	Normarc 99(8.0)

Table 2. Lowest scoring 10 tall fescue varieties

December	
Seedling Vigor	
Sundance(3.7)	Pick DDF(3.3)
PST-5MW(3.7)	Normarc 99(3.3)
Pick TF9(3.7)	KWS-BG-6(3.3)
Aztec(3.3)	Pick SLD(3.0)
PST-5D7(3.3)	PST-5D1(3.0)

April		
Quality	Density	Percent Living Groundcover
Bar Fa 7851(5.0)	PST-5DM(6.7)	PE-7E(91.7)
Rebel(5.0)	Pick TF9(6.7)	PST-5AP(91.7)
PST-5BL(5.0)	Hubbard 87(6.3)	Monarch(91.7)
Ky-31(5.0)	PST-5OL(6.3)	PST-5F2(91.7)
Hubbard 87(4.7)	PST-5BL(6.3)	KWS-BG-5(91.7)
Arid(4.7)	Richmond(6.0)	PST-5AG(91.7)
Normarc 99(4.7)	Pacer(5.7)	PST-5D7(88.3)
Pacer(4.7)	PST-5DL(5.3)	Normarc 99(88.3)
PST-5DL(4.7)	Normarc 99(5.0)	PST-5BL(88.3)
Pick DDF(3.3)	Pick DDF(4.3)	Pick DDF(73.3)

June		
Quality	Density	Percent Living Groundcover
Richmond(5.3)	Falcon(7.7)	Normarc 99(93.3)
Bar Fa 7851(5.0)	Monarch(7.7)	Bel 86-1(93.3)
Pick TF9(5.0)	Normarc 77(7.3)	Richmond(93.3)
Apache(5.0)	PST-5AG(7.3)	Monarch(93.3)
Pick SLD(5.0)	Tip(7.3)	Normarc 77(91.7)
Cimmaron(5.0)	Legend(7.3)	PST-5AG(91.7)
Normarc 99(5.0)	Normarc 99(7.3)	Tip(91.7)
PST-DBC(5.0)	Cimmaron(7.3)	Apache(91.3)
PST-5BL(5.0)	Finelawn 5GL(7.3)	Finelawn 5GL(91.3)
Fatima(4.3)	Apache(7.0)	Legend(91.3)

Table 2 (continued)

June (continued)

Leaf Texture	Chinchbug Damage	Iron Chlorosis
Syn Ga(5.0)	Pacer(7.3)	Richmond(5.3)
JB-2(5.0)	Tribute(7.3)	Arid(5.3)
Jaguar(4.7)	Pick TF9(7.3)	Normarc 99(5.0)
Ky-31(4.7)	PST-5HF(7.0)	Bonanza(5.0)
PST-DBC(4.7)	Bel 86-2(7.0)	Syn Ga(5.0)
Rebel(4.7)	Legend(7.0)	Ky-31(5.0)
Pick DDF(4.7)	Finelawn I(7.0)	PST-DBC(4.7)
Fatima(4.3)	Apache(6.7)	Pick SLD(4.7)
Arid(4.3)	Finelawn 5GL(6.7)	Bar Fa 7851(4.7)
Richmond(4.3)	Normarc 77(6.3)	Fatima(4.3)

August

Quality	Curvularia Outbreak
Pick TF9(4.0)	Jaguar(5.3)
Aztec(4.0)	PST-5D7(5.3)
Falcon(3.7)	Willamette(5.0)
Ky-31(3.7)	Pacer(5.0)
Finelawn5GL(3.3)	Wrangler(5.0)
JB-2(3.3)	PST-5AG(5.0)
Wrangler(3.3)	Rebel(4.7)
Legend(3.3)	Richmond(4.7)
PST-5DM(3.0)	Falcon(4.7)
Finelawn I(3.0)	Trailblazer(4.0)