

## Shade Adaptation Study

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The shade adaptation study was established in the fall of 1987 to evaluate the performance of 35 species and cultivars of grasses. The species include chewings fescue (C.F.), creeping red fescue (C.R.F.), hard fescue (H.F.), tall fescue (T.F.), Kentucky bluegrass (KBG), and rough bluegrass (*Poa trivialis*).

The trials are located under the canopy of a mature stand of Siberian elm trees (*Ulmus pumila*) at the Iowa State University Horticulture Research Station north of Ames, Iowa. Grasses are mowed at a 2-inch height and receive 2 lb N/1000ft<sup>2</sup>/year. No weed control has been required on the area, but the grass has been irrigated during extended droughts.

The visual quality was evaluated monthly in 2003 from May through October (Table 1). The values listed under each month in Table 1 are the averages of visual quality ratings made on three replicated plots. Visual quality was based on a scale of 9 to 1: 9 = best quality, 6 = lowest acceptable quality, and 1 = worst quality. The yearly average of the monthly data for each cultivar was calculated and is listed in the last column (Mean). The first cultivar listed in Table 1 had the highest average visual quality rating for the entire 2003 season. The cultivars are listed in descending order by average quality. The last row states the LSD (least significant difference), which is a statistical measurement of how widely the datum in each column must vary before they are considered to be different from one another.

**Table 1.** 2003 Visual quality data for cultivars in the 1987 Shade Trial in descending order for mean quality.

Cultivar	Species <sup>†</sup>	-----Visual Quality-----						
		May	June	July	Aug	Sept	Oct	Mean
Ensylva	(C.R.F.)	6	6	6	6	6	8	7
Victor	(C.F.)	7	7	7	7	7	6	7
Atlanta	(C.F.)	6	7	7	7	6	7	7
BAR Fo 81-225	(H.F.)	4	7	7	7	8	8	7
Jamestown	(C.F.)	6	6	6	6	6	7	6
Biljart	(H.F.)	5	7	6	7	6	7	6
Pennlawn	(C.R.F.)	6	6	5	6	6	5	6
Banner	(C.F.)	6	6	6	6	6	6	6
Shadow	(C.F.)	6	5	6	6	6	8	6
Agram	(C.F.)	6	6	6	7	6	7	6
Mary	(C.F.)	6	7	6	6	6	7	6
ST-2 (SR 3000)	(H.F.)	5	6	6	7	7	8	6
Waldina	(H.F.)	5	6	6	7	7	6	6
Waldorf	(C.F.)	6	7	6	6	6	7	6
Reliant	(H.F.)	4	6	5	7	6	7	6
Highlight	(C.F.)	5	5	4	4	4	5	5
Koket	(C.F.)	5	5	5	5	5	6	5
Wintergreen	(C.F.)	5	6	5	5	5	4	5
Estica	(C.R.F.)	6	5	5	6	5	6	5
Rebel	(T.F.)	4	4	5	5	5	4	5
Rebel II	(T.F.)	3	5	5	5	4	4	5
Spartan	(H.F.)	3	5	5	6	6	4	5
Scaldis	(H.F.)	3	4	5	5	5	4	4
Arid	(T.F.)	3	4	3	5	4	3	4
Bonanza	(T.F.)	4	4	4	4	3	4	4
Falcon	(T.F.)	3	3	4	4	4	5	4
Coventry	(K.B)	3	3	2	2	2	2	3
Chateau	(K.B)	2	3	2	2	2	4	3
Midnight	(K.B)	3	2	3	3	3	4	3
Apache	(T.F)	2	4	3	4	4	3	3
Nassau	(K.B)	2	2	2	3	2	2	2
Bristol	(K.B)	2	2	2	2	2	2	2
Ram I	(K.B)	2	2	1	2	3	4	2
Glade	(K.B)	3	2	2	2	2	3	2
Sabre	(Poa trivialis)	2	2	2	2	2	2	2
LSD <sub>0.05</sub>		1.4	1.5	1.6	1.6	1.4	2.8	1.3

<sup>†</sup>C.F. = chewings fescue, C.R.F. = creeping red fescue, H.F. = hard fescue, K.B. = Kentucky bluegrass, T.F. = tall fescue