

GTI HILITES

For a number of years the Guelph Turfgrass Institute has published the results of variety trials. Recently they have included data from the Kemptville and Ridgetown testing programs. A huge amount of data is presented; the most recent issue, the 1995 GTI Research Report has 20 pages of numbers. To the layman these numbers have little meaning. The selection of the best variety of a species might take hours of careful study.

Recently, Prof. Steve Bowley of the Crop Science Dept. at the University of Guelph has developed a rating system by which the varieties can be compared within a station and between stations. The system is called the superiority index.

Once a month Prof. Bowley examines the quality of the test plots of a species and identifies what he considers to be the best variety in the test. He assigns a number to this "best" variety for that month and all other varieties in the test are rated relative to it. Each month the difference between the "best" variety and any other variety in the test is calculated. At the end of the season the values are summed and the necessary statistical analysis applied.

Thus if the "best" variety remains the best at each evaluation date throughout the season its difference from the "best" would be zero and its superiority index would be zero. In contrast any variety which differs significantly or inconsistently from the "best" will have a high superiority index.

Table 1: The Superiority Index for Kentucky Bluegrass Varieties at Guelph and Kemptville in 1995.

Variety	SUPERIORITY INDEX	
	Guelph	Kemptville
Asset	0.38*	0.36*
Cynthia	0.38*	0.26*
Touchdown	0.48*	0.74*
Welcome	0.52*	0.46*
Nubblue	0.79	0.86*
Alpine	0.81	0.18*
Opal	0.83	0.41*
Lofts 1757	0.88	0.88*
Shamrock	0.88	2.00
Aspen	0.98	2.12
Liberty	1.02	0.22*
Chateau	1.06	2.06
Eclipse	1.08	0.85*
Limousine	1.08	0.72*
Midnight	1.13	3.05
Adelphi	1.17	0.53*
America	1.31	0.72*
Glade	1.31	0.18*
SR2100	1.33	2.16*

*Superiority Index cut-off at a statistical probability level of $P = 0.05$. Varieties with values not stated are statistically inferior to those "best" performing varieties which are stated.

This type of analysis has been put into use both at Guelph and Kemptville, thus permitting a comparison of varieties at Guelph and between Guelph and Kemptville. Superior varieties at both locations may be considered suitable for the areas represented by the two stations. Table 1 lists the quality ratings for bluegrass at Guelph and Kemptville during 1995.

Based on Prof. Bowley's analysis the varieties which are superior at both sites may be considered to be true STARS. The varieties which are inferior at both sites may be considered to be true DOGS. Those in between will require the individual turf manager's decision on whether to use them or not.

Assessment of other species such as tall fescue and bentgrass are available in the 1995 Research report of the GTI. Additional years of data and data from trials at Ridgetown will improve the shake down of the large number of varieties available today to the turf manager.



GTI Turf Research Field Day

August 19, 1996 is the date of the second Turf Research Field Day to be held at the Guelph Turfgrass Institute in Guelph. The experimental plots will be in their second year of operation.

The day offers an excellent opportunity to see first hand the results of work being conducted on the use of chemicals for pest control, IPM systems, variety trials, chemical movement from the rooting zone and many other items of interest to the turf manager. GTI researchers will be available to answer your many questions.

For further information, call (519) 767-5009.

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