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LSD: How big a difference is big enough?

Narrow the field

AS YOU COMPARE your list of desirable attributes against the list of available grass seed, narrow the field down to two or three promising species with a group of 5–10 varieties for each species. Deciding whether to use a mixture of two or more species or to use one or more varieties within a species depends on what your goals are for the sites you manage. For example:

- IFYOU ARE SEEDING INTO DORMANT TURF for winter color, then your choices are usually limited to ryegrasses.
- IF YOU ARE SEEDING A BARE SITE or renovating an older site, then choosing two or more varieties within a species is often the best course of action, assuming uniform growing conditions at the site.
- WHERE VARIABLE GROWING CONDITIONS exist, a mixture of two or more species is often the best approach. Frequently, the use of more than one properly selected variety or species will broaden the genetic base of a turf stand, and improve its ability to withstand differing environmental conditions.

Acquire the current NTEP Progress Reports

ONCE YOU HAVE PARED DOWN your initial list of possible species and varieties, contact NTEP and request copies of the current test results for those species. When the reports arrive take some time to orient yourself to how the information is provided. In short, get a feel for the forest before focusing on the individual trees. For the sake of this article, we have used the 1991 Progress Report of the National Kentucky Bluegrass Test -1990 (Medium-High Maintenance). – continued on page 4

Obtaining NTEP Progress Reports

National Turfgrass Evaluation Program progress reports can be obtained by writing: Kevin Morris, National Director, National Turfgrass Evaluation Program, BARC-West, Bldg. 001, Room 333, Beltsville, Maryland 20705 Deed producers or sellers spend substantial sums of money trying to influence turf managers to buy their particular variety of grass seed. For the past eight years or so, quoting comparative research test data has been one of the most popular features of ads for turfgrass seed—even if the data only show that one variety is two or three tenths of a point better than competing varieties. Seed-producers that participate in NTEP are allowed to use the data produced by it in their advertising, but is two or three tenths of a point a big enough difference on which to base a buying decision?

When considering the NTEP data tables, there is a figure that needs special attention at the bottom of each numerical column—the LSD value. This LSD value, or least significant difference, is a tool for statistical analysis, which is used where one member of a group is compared to all the other members of that group. In the NTEP reports, it is used to determine if the difference in cultivars represented by the data is a real difference or just the illusion of one.

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When raw data, based on an "interpreted" standard, is produced by assigning a value to a characteristic, there is always a possibility of mistakes—especially since the assignment of perceived values is less precise than values that represent simple measurements. The LSD values for all of the tables are produced by a formula, and are given to clarify the margin of error created by this imprecision.

To determine if a statistically significant difference exists between two varieties, subtract the lesser value from the greater value and compare it to the LSD value. If the difference is greater than the LSD value, then the difference is significant—and indicates that the variety with the greater rating is a better variety. If the difference is less than the LSD value, then the difference is not significant—and falls within the realm of rating error.