# TURFGR/MSS TRENDS

Volume 10, Issue 9 • September 2001

#### SEED SELECTION

## How Predictable is NTEP Data for Your Particular Site?

#### By Doug Brede, Ph.D.

ast fall I worked with a client in Edmonton, Alberta, Canada, who was planting a golf course to Kentucky bluegrass. I asked if he had consulted data from the National Turfgrass Evaluation Program (NTEP) to aid in his decision, and he said he had. The client explained that he had chosen a handful of varieties from the top of the Grand Mean column and wanted to construct a blend.

Sound familiar? This same scenario plays out in locations across the continent all the time. Contractors, landscape architects, and turf managers consult the NTEP listings as a routine part of their planting plans. But the question remains: Is this the best way to pick varieties for your site?

In this article I'm going to examine some of the relationships buried inside the NTEP data. Most people who use NTEP data look at just the single column of Grand Mean averages for recommendations. But is this the right thing to do? Or are there idiosyncrasies hidden within the statistics that may paint a misleading picture? I will show you what some of these rating values really mean by examining underlying interrelations among the variables.

First, I'm going to explain some of the more confusing concepts within NTEP, such as the differences and similarities between such things as density and texture. (Does anyone really know the difference between those two?) By doing so, I'll provide insights into the thought-processes of the raters and the meaning of their results.

Next, I'll show you why you may be making a giant mistake by following the Grand Mean Quality results for your variety recommendation needs – as my Edmonton client later discovered.

#### Hidden interrelationships in NTEP data

Whenever I tell one of my non-turf colleagues about the NTEP trials – our "yardstick" of turf breeding – the question invariably comes up: What kind of meters do you use to take the readings? Most scientists are accustomed to carrying gadgets and gizmos with them to measure things. My non-turf colleagues are always surprised to learn that there are no such gadgets with turf. Every measurement in the NTEP trial is based on eyeball estimates.

To those of you familiar with the process, this comes as no surprise. But it may surprise you to learn that some of these visual estimates are strongly interrelated. Many are highly correlated: Factor A influences the rater's judgment on Factor B.

To explore these interrelationships, I downloaded tables from the 2000 results of the 1995 Kentucky bluegrass trial from NTEP's web site (www.ntep.org). I used a software package called Statistica to analyze the data. However you can do many of the same manipulations with Microsoft Excel on your desktop.

### IN THIS ISSUE

How predictable is NTEP data for your particular site?.....1

Hidden interrelationships in NTEP data

Are raters color-blind?

Are raters dense?

Assigning a number to predictability

How useful is grand quality mean?

Soil manganese

Manganese uptake

Functions of manganese

Oxygen evolution in photosynthesis

Manganese-containing superoxide dismutase

Mn and phenol biosynthesis leading to lignin

Manganese deficiency and toxicity

Sources of manganese

Management forum......14

Red thread and rust control

From the editor.....15

The need for training