

NTEP NEWSLINE

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NEW POLICIES SET FOR UNPAID FEES

At its most recent meeting in Dallas, TX, the NTEP Policy Committee addressed the issue of unpaid entry fees. With fees for approximately forty entries that were due June 1, 2000 and are yet unpaid, the Committee discussed the issue at length.

Current policy dictates that data from any entries with unpaid fees will not be included in the current year's progress report. However, beyond the removal of data from its respective progress report, the Policy Committee felt that other measures need to be taken to ensure that fees are paid as agreed upon by each sponsor at the beginning of a test. Therefore, the following policy was developed and passed:

All past entry fees owed by an entry owner/sponsor shall be paid in full by an owner/sponsor in order for that owner/sponsor to submit entries into a future NTEP trial.

This policy is effective immediately. If anyone has questions about the policy or needs further explanation, please contact us.

USDA PROPOSES NATIONAL TURFGRASS LABORATORY

In a January 2001 meeting of turfgrass industry representatives and United States Department of Agriculture, Agricultural Research Service (USDA-ARS) officials, Dr. Edward Knipling, ARS Associate Administrator proposed the initiation of a national turfgrass research laboratory within ARS. The proposal resulted from the turfgrass industry's success in convincing Congress to create a full-time turfgrass research position at Beltsville, MD as well as the restoration of federal funding for NTEP in each of the last five years.

The turfgrass research laboratory was proposed during the meeting that was arranged to discuss the specifics of the new research position. In attendance representing the turfgrass industry were Mr. Tom Delaney, Executive Director of the Professional Lawn Care Association of America (PLCAA), Dr. Don Floyd, turfgrass breeder for Pickseed West, Inc. and President of the Turfgrass Breeders Association (TBA), Dr. Mike Kenna, Director of the United States Golf Assoc. Green Section Research,
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2001 TALL FESCUE TEST UPDATE

At its most recent meeting, the NTEP Policy Committee accepted recommendations of an advisory committee established to define parameters for the upcoming 2001 National Tall Fescue Test. Approximately 30 *official* test locations were selected along with several *ancillary* test locations. The following details
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NTEP SITE PROFILE: UNIVERSITY OF ARIZONA

In the Western US, issues related to water dominate the political landscape. Some of these issues are related to the use of water in *landscapes*, on golf courses and athletic facilities. Therefore, regulation of water use is a hot topic (no pun intended!) at the University of Arizona in Tucson.

In Tucson, about sixty miles from the Mexican border, researchers Dr. David Kopec, Dr. Ken Marcum and Jeffrey Gilbert deal not only with a dry, desert environment, but over 40 days per year of 100+ °F temperature. A modern research facility, the Karsten Turfgrass Research Laboratory, was built in 1991, with funding in part from Karsten Manufacturing, makers of Ping golf equipment.

Water availability is a huge issue in Arizona but from a turfgrass perspective, so is water quality. Often, turfgrass managers are forced to either restrict water use or utilize effluent or recycled water on their



Overseeding of bermudagrass and other field trials at the Karsten Turfgrass Research Lab, in the shadow of the Catalina Mountains



The Karsten Turfgrass Laboratory in Tucson, Arizona

turf areas. These recycled waters may be of low quality, which often means high salt levels. Drs. Marcum and Kopec are researching both areas; identifying varieties and germplasm that require less water and/or will tolerate medium to high salt concentrations. Also of interest are improved management practices that will either reduce water use or allow the turf to withstand the combination of reduced water, drying winds and high temperatures.

Several NTEP trials are conducted at the Karsten Turfgrass Research Lab including the warm-season species bermudagrass, buffalograss and st. augustinegrass. However, the NTEP bentgrass putting green trial can also be found there, as bentgrass use is increasing in the region. Also, the on-site bentgrass/ bermudagrass putting green and overseeding trials are conducted by Dr. Kopec and Mr. Gilbert at the Green Valley Country Club, just south of Tucson. Information from these studies is valuable to turf managers throughout the desert southwest.

USDA PROPOSAL

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Mr. Ike Thomas, President of Turfgrass America and Chair, NTEP Policy Committee. and Mr. Kevin Morris, NTEP Executive Director.

For discussion purposes and a place to start, the USDA, ARS National Program Staff developed and presented a draft document outlining what they feel are appropriate research priorities for a USDA turfgrass research unit to pursue. The current proposal includes establishment of a molecular biology/genomics research laboratory. The genomics research group would investigate the basic biological mechanisms of plant resistance to various stresses in turfgrasses and work to transfer these mechanisms or genes into desirable species. This unit would complement and work with the new turfgrass research scientist that will be hired to collect and evaluate germplasm growing in harsh environments. The goals of this unit would be improvement of germplasm, not variety development.

Another area of interest is watershed modeling and water quality issues related to turfgrass management. ARS is well suited for this research as several of their sites are already well equipped with facilities and qualified researchers. With 2,000 researchers in over 100 locations, ARS has facilities and personnel available for most any research need. A meeting to discuss and define research needs will be held with turfgrass industry representatives and researchers sometime this fall.

NTEP POLICY COMMITTEE MEETS

The NTEP Policy Committee met recently during the GCSAA Conference and Show in Dallas, TX. Some items of interest that were discussed:

New USDA Turfgrass Position/USDA Turfgrass Laboratory - Drs. Evert Byington and Allen Dedrick from USDA, ARS presented their ideas on the proposed national turfgrass research lab (see article - page one).

Delinquent Entry Fees - a new policy was developed to address the issue (see page one article).

Statistical Analysis Update - the committee voted to further investigate adoption of improved statistical procedures applied by Univ. of Massachusetts researchers to NTEP data.

2001 Tall Fescue Test - recommendations from the advisory committee were approved (see page one article).

Strategic Plan - an updated five-year strategic plan for NTEP was approved. The plan has since been posted on the NTEP web site and mailed to all clientele.

Next Meeting Date - the Policy Committee will meet June 12-13, 2001 at Penn State University. Dr. Peter Landschoot will host the group.

WHAT YOU NEED TO KNOW ABOUT NTEP

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A high LSD Value that shows little statistical differences among all entries probably indicates that the disease was not distributed uniformly enough across the plot area and 3) only consider resistance to diseases that are problems in your area.

Data on resistance to certain insect pests is occasionally reported for NTEP tests. As with some diseases, insects often do not appear uniformly across an entire test or in numbers large enough to cause significant damage. Therefore, when a high insect population does occur, the resulting data can be very beneficial. Even though only one or two locations may report data on insect resistance, this data can be very useful in determining some level of resistance or susceptibility.

The NTEP progress reports also contain small amounts of data of several traits including vertical growth ratings, sod strength, winter kill and traffic tolerance. This data is useful in determining the best cultivars for those situations where these characteristics are important.

When considering data from any NTEP table, there is a figure at the bottom - the "LSD Value" that is important. LSD (Least Significant Difference) Value is a statistical tool to determine if the difference in cultivars is a real difference or just happened by chance. To determine if a statistical difference exists among two culti-

tivars, you need to subtract the cultivar with the smaller value from the cultivar with the larger value. If the difference between the two numbers is not larger than the LSD Value that is at the bottom of that column, then no statistical difference exists between these two cultivars for that particular characteristic. For example, note figure 3.

Figure 3.

Turfgrass Quality	
Entry A	6.0
Entry B	5.5
LSD Value	0.6

Entry A has a turfgrass quality rating of 6.0, Entry B has a turfgrass quality rating of 5.5 and the LSD Value is 0.6. In this case, no statistical difference exists between Entry A and B for turfgrass quality. Please keep in mind, however, that one must use this LSD Value for each table and each year as cultivar performance can vary greatly depending on the location, the trait you are interested in, the month and year.

(This is the last of a series of six articles that was originally published as a chapter in Turfgrass Cultivars: Breeding and Utilization, by SoftScience, Inc. (Japanese only). More information on the "workings" of NTEP will be published in future issues of Newsline.)

2001 TALL FESCUE TEST

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were decided upon by the Policy Committee:

Standard Entries:

Kentucky-31, *Bonsai* (dwarf-type), *Jaguar 3* (highest average turf quality in 1992 NTEP test), *Rembrandt* (highest average turf quality in current NTEP trial, 1997-99 data) and *Falcon II*.

Management Regimes:

Two management regimes were developed (see Figure 1. below).

Other Items of Interest:

Seeding rate is 5.2 lbs./1000 ft². Traffic tolerance will be evaluated at 3-5 sites.

NTEP would like to thank the following researchers for serving on the tall fescue advisory committee:

Dr. Robert Green,
University of California, Riverside

Dr. Mike Richardson,
University of Arkansas

Dr. Mark Sellmann,
Jacklin Seed/Simplot Turf Partners

Dr. Melodee Fraser,
Pure-Seed Testing, Inc.

Dr. David Williams,
University of Kentucky

The time, efforts and expertise given by these individuals is critical to the success of this trial. Thanks again!

NTEP ANNOUNCES TESTING SCHEDULE

NTEP has set the following schedule for sponsorship of future *official* tests:

Fall 2001	<i>Tall Fescue</i>
Spring 2002	<i>Bermudagrass</i> <i>Buffalograss</i> <i>St. Augustine</i> <i>Zoysiagrass</i>
Fall 2003	<i>Bentgrass</i> <i>Fineleaf Fescue</i>
Fall 2004	<i>Perennial Rye</i>

More details on the upcoming tall fescue test will be available later this spring. Also, the first correspondence on the 2002 warm-season grass tests will be sent to seed companies, sod growers, breeders and researchers during summer.

Other tests under consideration include a second planting of the *on-site* putting green tests sponsored by the United States Golf Association (USGA) and the Golf Course Superintendents Association of America (GCSAA), along with NTEP. Currently, eighteen creeping bentgrasses and eight bermudagrasses varieties are being evaluated on thirteen and seven golf courses, respectively, across the U.S. The NTEP Policy Committee, along with the USGA and GCSAA research committees, will soon decide the fate of this project.

Figure 1.

2001 NATIONAL TALL FESCUE TEST MANAGEMENT REGIMES

	Schedule A	Schedule B
<i>Mowing Height</i>	1.5 - 2.0 inches	2.5 - 3.5 inches
<i>Nitrogen</i> (per 1000 sq. ft./year)	3 - 5 lbs.	0 - 2 lbs.
<i>Irrigation</i>	to prevent stress	none, only during severe stress or to prevent dormancy
<i>Pest Management</i>	weed control as needed, no fungicides or insecticides unless a severe loss of stand is possible	weed control as needed, no fungicides or insecticides

WHAT YOU NEED TO KNOW ABOUT NTEP: PART SIX “EVALUATION METHODS AND CRITERIA”

Resulting from the testing conducted in the northeastern U.S. in the 1970's, NTEP has developed a site description/management/data collection format for cooperators. The site description and management parameters include the following: state or province, location (city or town), year of data collection, soil texture, soil pH, soil phosphorus and potassium levels, nitrogen level applied, amount of shade, mowing height, irrigation level and traffic designation. All of the information pertains to the site attributes and management for that year of data collection only. Each year, this information is completed and included along with the data collected. The site descriptions and management regime used are coded according to levels. For instance, soil pH is assigned one column in the NTEP format using the following scale:

1 = 3.5 or less	6 = 6.6-7.0
2 = 3.6-4.5	7 = 7.1-7.5
3 = 4.6-5.5	8 = 7.6-8.5
4 = 5.6-6.0	9 = 8.6 or higher
5 = 6.1-6.5	

This information helps users of NTEP data to determine the characteristics of a particular test site and how the test at that site was managed. NTEP is also starting to use this information to group sites and analyze data based on similar management levels, site characteristics or geographical regions.

The NTEP data collection format contains more than forty

characteristics that can be rated by cooperators. All factors (except percentage ratings) are rated using a 1 - 9 scale with 9=ideal turf, dark green, fine texture, no disease, etc. The characteristics can be grouped as follows:

Overall

encompasses all the factors that impact or affect turfgrass appearance and persistence

Characteristics rated: Turfgrass Quality

Descriptive

Aesthetic:
quantify the aesthetic appearance

Characteristics rated: Genetic color, Leaf Texture, Density (spring, summer, fall), Winter color

Genetic:
quantify other factors that describe each grass

Characteristics rated: Seedling vigor, Spring greenup, Thatch measurements

Stresses

Environmental:
quantify the effect of various climatic stresses

Characteristics rated: Frost tolerance, Percent winter kill, Drought tolerance (wilting, dormancy and recovery)

Disease:
quantify resistance or susceptibility to various diseases

Characteristics rated: Typhula blight (*Typhula spp.*), Fusarium patch (*Microdochium nivale*), Necrotic ring spot (*Leptosphaeria korrae*), Melting-out (spring, fall) (*Drechslera poae*), Leaf spot (*Bipolaris*, *Drechslera spp.*), Stem rust (*Puccinia graminis*), Dollar spot (*Sclerotinia homeocarpa*), Red thread (*Laetisaria fuciformis*), Brown patch (*Rhizoctonia solani*), Summer patch (*Magnaporthe poae*), Pythium blight (*Pythium spp.*), Stripe smut (*Ustilago striiformis*), Flag smut (*Urocystis agropyri*), Crown rust (*Puccinia coronata*), Powdery mildew (*Erysiphe graminis*)

Insect:
quantify resistance or susceptibility to various insect pests

Characteristics rated: Chinch bugs (*Blissus spp.*), Sod webworms (*Herpetogramma*, *Pediasia*, *Crambus*, *Parapediasia spp.*), Billbugs (*Sphenophorus spp.*), White grubs (*Phyllophaga*, *Popilla*, *Cyclocephala*, *Rhizotrogus*, *Anomala*, *Maladera*, *Continus spp.*), Aphids (*Schizaphis graminum*)

Mechanical:
quantify the effect of mechanical impacts on turfgrass
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WHAT YOU NEED TO KNOW ABOUT NTEP

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Characteristics rated: Traffic
(Wear) tolerance

Other:

rate the overall effect of stresses
on turfgrass persistence

Characteristics rated: Percent
living ground cover (spring, summer, fall)

In addition, the rating format accommodates data collected on other descriptive characteristics (such as fall color retention, vertical growth ratings, seedhead production) or stresses that are seen (additional diseases, insects, unusual weather related responses).

Turfgrass quality ratings are the most widely used data collected by NTEP. Quality ratings, an overall visual evaluation of each grass, are collected monthly throughout the growing season. Quality ratings encompass all the factors that affect the quality of a turf stand including genetic color, density, percent ground cover, disease and insect injury, heat and drought tolerance and uniformity. Because of this, quality ratings are highly subjective and vary from cooperator to cooperator. In past research, however, we have found that most researchers evaluating NTEP tests emphasize color, texture and density when rating turfgrass quality. In addition, overall persistence of the grass greatly affects quality rat-

ings. Therefore, good resistance to the various stresses is also important.

The descriptive ratings are generally not affected by geographical or climatic differences. For this reason, descriptive ratings are useful in characterizing entries. Genetic color, leaf texture and spring greenup are required by NTEP to be collected once each year, therefore data from many evaluators is available on these three characteristics.

Percent Living Ground Cover can be collected in Spring, Summer or Fall. Percent living ground cover is designed to express damage caused by disease, insects, drought, etc. This differs from density ratings which are designed to rate the number of living plants per unit area (excluding damaged patches). Ground Cover ratings are useful in determining the survival of turfgrasses through various stresses. Many people use ground cover ratings to determine how a grass survived the summer stress period and consequently, how the percent ground cover changed (how well the grass recovered) in fall.

Certain diseases such as leafspot, red thread, dollar spot and brown patch occur quite frequently and uniformly in test plots. Therefore, NTEP often contains data from several of these diseases in each progress report. Since disease organisms can vary from one location to another, it is important to choose varieties that have resistance to a particular disease at several locations. Also, tracking a cultivar's re-

sponse to diseases over several years gives a better indication of the true disease resistance under different environmental conditions.

Many diseases occur infrequently if at all in test plots. These diseases, when they occur, often do not distribute themselves uniformly across the test area making an accurate estimation of resistance or susceptibility very difficult. Diseases such as summer patch and necrotic ring spot seem to show their characteristic frog-eye symptoms only after significant levels of a thatch are produced (usually 2-4 years after establishment). Diseases such as powdery mildew occur mainly in shade. Some diseases are prevalent only in certain locations (i.e., stem rust in the Pacific Northwest USA). Making decisions concerning resistance to these infrequent diseases should follow these guidelines: 1) be careful using only one year's data from one location to determine resistance, 2) if you choose to evaluate data from only one or two locations, look closely at the LSD Value.

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NTEP NEWSLINE is issued on a quarterly basis. If you have concerns or suggestions, please contact:

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