A Big Turf Show And What Goes On

FOR A THREE-YEAR-OLD, it's making some pretty bold claims to bigness.

But then the Ohio Turfgrass Conference as supporting evidence offers its attendance of 1,050, raising the question: Is there another similar gathering any larger?

The latest measurement of the Ohio group's growth came Dec. 1-3 in Cleveland. Twenty-two papers were presented; 71 companies occupied 130 booths set up in the main ballroom and an adjacent room half as large in the Sheraton-Cleveland Hotel.

Sponsors were four-fold: The Ohio Cooperative Extension Service, Ohio State University, Ohio Agricultural Research and Development Center, and the Ohio Turfgrass Foundation.

Subject matter for the three days was categorized under five headings: Turf varieties and mixtures; turfgrass diseases; soil factors; weed control; and grounds beautification. A report on the weed control section will be carried in the February special issue on weed control. A capsule of other information presented follows:

Turf varieties and mixtures

"Temporary grass mixtures are, for the most part, not desirable and used only when quick cover is necessary," stated agronomist Merle H. Niehaus from the Wooster research and development center. On the other hand, he added, "Permanent mixtures can be used to increase turf tolerance to certain pests and particularly to increase shade tolerance."

Fast-growing short-lived species,

You're looking at a portion of the banquet crowd and about a third of the exhibit area of the Ohio Turfgrass Conference and Show. The event is becoming one of the largest in the country on vegetation management.


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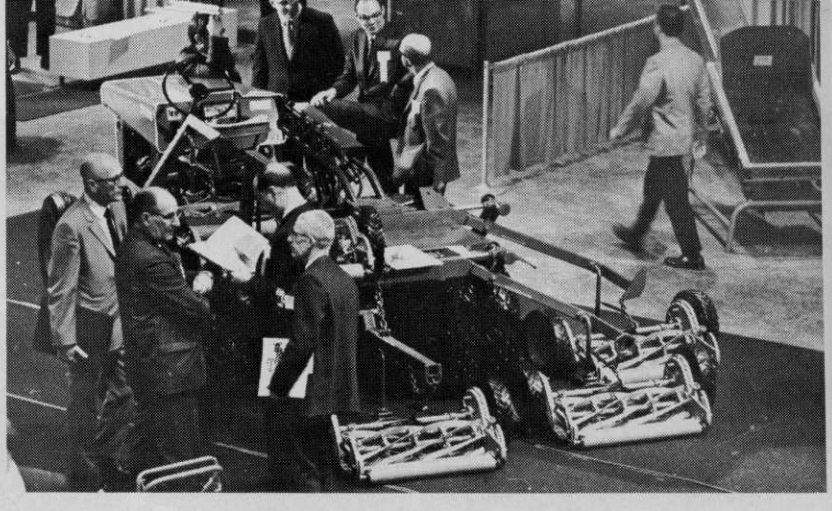


On the Exhibit Floor

rather than acting as a "nurse crop" for slower-growing, long-lived species, can actually suppress the growth of the latter desired species, he said.

A desirable permanent mixture is bluegrass and red fescue. Bluegrass will dominate the sunny portion of the area; the red fescue, the shady portion. In Wooster tests, this mixture produced a complete sod more rapidly than either alone, he reported.

For hard-use areas, such as playgrounds on athletic fields, Niehaus advised pure tall fescue over bluegrass/tall fescue. In high levels of management, the bluegrass will dominate, he said.

Short-term data indicate that bluegrass and new turf-type perennial ryegrass look promising as a mixture to provide quick cover and a high degree of tolerance to many turf diseases.

Dr. C. R. Funk reported these conclusions from Rutgers research of bluegrass blends under various management conditions:

1. Observed performance of a blend has never significantly exceeded the performance of the best component variety.

2. Blending of varieties with contrasting leaf widths has produced attractive turf.

3. Newport has proved to be a poor competitor in mixtures with Merion, Pennstar and Fylking.

4. Merion has been too competitive, in relation to other available varieties to make it an ideal component of a permanent blend. At the end of three years, Merion comprised more than 94% of the turf in all mixtures seeded to either 25% or 50% Merion.

5. Blends of resistent and susceptible varieties showed considerably less damage from leaf spot than the average performance of the components grown separately.

6. Stripe smut did not influence competitive ability until it became severe.

"Data suggests that the best multipurpose bluegrass varieties," Funk concluded, "will be blends of compatible, low-growing, disease-resistent bluegrasses tailored to complement each other. Outstanding single-component varieties will continue to be used for special purposes."

All the while that one of the most enviable records in college football was being built, research was going on under the trampling feet of Ohio State University football players and their usually vanquished opponents. Among those watching the turf, perhaps as much as they watched the players, was Dr. Robert W. Miller. He reported on findings of research that began with the renovation of the Ohio State field at Columbus in 1961.

A 90% tall fescue/10% Kentucky bluegrass was seeded in April of 1962. During the first playing season, tall fescue dominated, he said. Then the fescue dwindled to 25% in the 1963 season and disappeared entirely by the 1964 season.

Research was begun to find out what happened to the fescue. Merion, Delta and Newport bluegrass were mixed with fescue. Factors of fertility, seeding rate, mowing height, water and no water were evaluated.

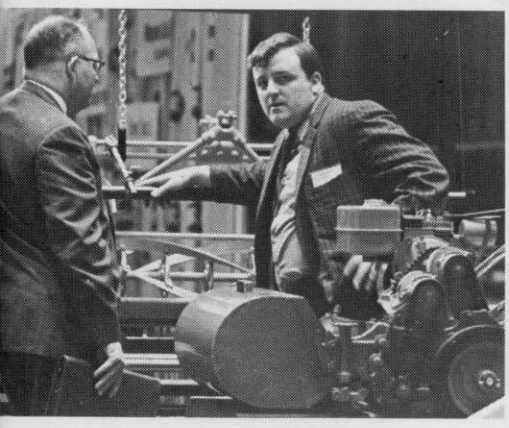
Dr. Miller reported these conclusions:

1. A turfgrass mixture of tall fescue and Kentucky bluegrass will gradually change to bluegrass when highly managed in a climate similar to that of central Ohio.

2. The increasing dominance of bluegrass results in part from differential winter injury to the two species.

3. To maintain a minimum shift to bluegrass, use no more than 3 lbs. of nitrogen per 1,000 sq. ft. per year and mow at a two-inch height.

While perhaps more than half of the golf courses in the northern part



of the country have bluegrass fairways and tees, James L. Holmes, Agri-Systems of Texas, Inc., Bryan, sees a trend to bentgrass.

Fairway irrigation and player demand for short height of cut are the reasons, he said. "If a blend or mixture is all that is required, simply use seaside," he advised.

"Great variation in type is perhaps the most favorable trait of seaside. Where this grass has been regularly and constantly seeded or overseeded, certain types develop under given environmental conditions."

Penncross is finding favor as a green and tee turf, simply because it is easier and cheaper to establish by seeding, claimed Holmes. "It is tremendously easier in reestablishing a uniform turf in a deadened area."

Turfgrass Disease

Of greatest importance is the discovery of turfgrass diseases at the earliest stage, stressed Clinton F. Hodges of Iowa State University. Once large areas have been loss, identification of the specific disease is extremely difficult.

The specialist must be keenly aware of three factors when attempting to identify disease: appearance of individual plants; weather conditions at the time and prior to appearance of the disease; and management practices.

Application of fungicides can be done several ways, but R. R. Muse of Ohio State's Wooster research center said spraying is preferred "simply because it provides a more efficient and better distribution."

Muse stated that complete and uniform coverage of fungicide — that is, wet leaves, crown, and thatch area — can be achieved with 5 to 10 gallons of spray per 1,000 sq. ft.

"In some cases, five gallons are satisfactory against diseases such as powdery mildew and rust, "which attack mainly the grass blades" he said. "Other diseases, such as Sclerotinia dollar spot, Rhizoctonia brownpatch, Pythium light, and Helminthosporium melting-out, in which the organisms attack the crown and roots, require 10 or more gallons."

Plant pathologist Noel Jackson of the University of Rhode Island doubted the development of a fungicide that would be a universial panacea for all turf ills.

Laboratory success for a fungicide doesn't always follow with field success because conditions vary so greatly, said Jackson. And methods of testing and evaluation vary from research center to center.

To improve fungicide research and evaluation, Jackson reported that the turfgrass committee of the American Phytopathological Society recommended recently the establishment of nationwide test standards. The standards would cover all aspects of field experimentation, growth chamber and greenhouse studies; The committee charged with recommending standards would also offer suggestions on how to develop a centralized, interstate cooperative facility for obtaining and compiling meaningful data.

A carefully planned fungicide program may be important, but may not be needed, suggested Lowell E. Moser of Ohio State.

"By carefully planning and modifying a turfgrass site, selecting disease resistant varieties, keeping a balanced fertilizer program, irrigating as infrequently as possible and preferably in the morning, mowing with sharp mowers, and keeping thatch under control, one could expect less disease."

Intelligent management won't eliminate disease on fine quality turf, he added, but where medium quality turf is sufficient it often is enough to avoid a severe disease problem.

Soil Temperature Effects on Plants

Soil temperature and air temperature characteristics aren't always parallel, disclosed James M. Latham, Jr. agronomist for the Milwaukee Sewerage Commission.

The turf manager needs to pay more attention to temperature below the surface, Latham indicated, if he is to establish and maintain healthy turf.

It is well known that soil temperature directly affects germination, growth, and bacterial activity, therefore it is important for the turf man to know whether a soil tends to be cooler or warmer.

Latham listed these factors as indicators of warmer soil: dark color and dry, south slope, well-drained, uncompacted, bare, and in equatorial latitude. Cooler soil factors, he said, are light color, north slope, poorly drained, compacted, forested or cropped and polar latitude.

(Continued on Page 14)

Presidents, Man-of-the-Year . . . And the Whole Gang

Newly elected president of the Ohio Turfgrass Foundation, Richard Craig, left, is offered best wishes by Robert Reiman, outgoing president (upper left picture) Charles Tadge, right, receives OTF's "Man-of-the-Year" award from Harry Shrode, awards committee chairman. The leadership that produced the big show and will plan the one next year at Cincinnati is, from the left: Robert Miller, executive secretary; Richard Craig, president; Tom Evans, first vice-president; Robert O'Brien (front), second vice-president; Robert Reiman, outgoing president; Gene Probasco, treasurer; Paul Morgan, director; Fred K. Buscher, director; Bill King, director; Harry Shrode, director; Paul Mechling, director.

(Continued from Page 11).

Temperature variation diminishes as soil depth increases, Latham pointed out. The depth where no change occurs is called the neutral layer. The neutral layer for daily temperature change is five inches deep; for annual variation, 40 feet. At 30 feet, he said, the seasons are reversed.

Dr. Paul R. Henderlong at Ohio State illustrated how temperature affected seed germination (percentages recorded 10 days after seeding) with this chart:

Species	90°-80°	75°-65°	60°-50°
Pelo ryegrass	65%	92%	62%
Pennlawn fescue	42	86	40
Penncross bent	50	58	46
Highland bent	53	43	45
K-31 fescue	36	55	58
Park bluegrass	32	45	20
Merion bluegrass	—	5	—

The optimum air temperature range for bluegrass and fescue growth has been reported to be about 75 to 85 degrees, Henderlong said. Yet the optimum soil or root temperature range is 60-70 degrees. Optimum soil temperature for root development of bentgrasses and ryegrasses is about 85-65 degrees. Growth rate for grasses in general indicates an optimum temperature somewhat higher than that for root growth.

Soil and air temperatures have profound influence on fertilization, stated R. E. Blaser, agronomist from Virginia Polytechnic Institute.

"The 14 mineral nutrients needed by turfgrasses do not diffuse into root tissue by themselves," he said. Temperature influences availability of nutrients in soils through chemical and physical effects on soil materials and through growth stimulation or retardation of microbes and turf plants.

Phosphorus availability is lowest when temperature is low. Too much nitrogen when soil temperature is favorable for growing can overstimulate above ground leaf growth at the expense of root health. With high nitrogen content in the leaf and reduced energy researves in the roots, disease can be just around the corner, he warned.

Experienced turfmen know when it's "dollar spot weather" or "brown patch weather," claimed plant pathologist Dr. Robert E. Partyka. It's an indication, he said, that soil and air temperature is quite important in the development of turfgrass disease. As a rule of thumb, he listed these air temperature brackets "right" for producing the following diseases:

Show Mold, *Fusarium nivale,* 32-45 degrees; Brown Patch, *Rhizoctonia solani,* 64-73 degrees for mycelial growth (But at 80-85 and a relative humidity of 100%, the fungus can completely blight a large area within six to eight hours. A rapid temperature drop to the 64-66 degree level favors sclerotial formation. In some cases, sclerotia may form within an hour.); *Helminthosporium sorokinianium,* leaf spotting at 68 degrees, leaf spotting with some blighting at 75-85 degrees, and severe blighting with no leaf spotting at 95 degrees; Dollar Spot, peak activity at 70-80 degrees;

Copper spot, *Gloeocercospora sorghi,* fungus begins to grow when soil temperature reaches minimum of 62 degrees for seven days (air temperature may be in the 68-75 range); Anthracnose, *Colletotrichum graminicola,* 80-85 degrees; Pythium blight, *Pythium aphanidermaturm* and *P. utimum,* most favorable at 85-95 degrees; Powdery mildew, *Erysiphe graminis,* 65 degrees; Fusarium blight, *Fusarium roseum* and *F. tricinctum,* 77-95 degrees; rusts, *Puccinia graminis,* 70-75 degrees, once fungus has invaded the tissue, 85-95 degrees favors growth; stripe smut, *Ustilago striiformis,* 50-60 degrees; and soil-borne nematodes generally grow best at 65-75 degrees,

temperatures that also favor good turf growth.

Grounds Beautification

Industry might warm up its welcome from a community by leading with its plan for landscaping.

Some people don't want industry because of its lack of emphasis on grounds beautification, said Jack Sybrant of Duncan Landscaping, Youngstown, Ohio.

"Many times we're called in too late," he added. "with the only solution of the beautification problem being to screen the business from the public."

Where we can landscape, he continued, "we try to soften the structural lines to make the structure look comfortable with its surroundings."

The same idea is applicable to home beautification, observed James Caldwell, horticulturist at Ohio State.

But first, he said, you have to get their attention focused on beautification. Then give them the right information; sell them the right plantings; talk about year-around effort; don't over-clutter.

Frank Dobie of the Sharon Golf Club at Sharon Center, Ohio, observed that a "well-planned beautification program can be a good public relations program with members."

Edward Friedhoff described the tree-planting and grounds beautification at the Cemetery of Spring Grove at Cincinnati. Year-around appeal is important, with the whole idea being to please the living who come there, he said.

Dave Willits, in reporting about his landscaping efforts around Columbus Public Schools, offered graphic illustrations of what happens when maintenance isn't considered in landscape plantings. In a relatively short time, a complicated, though attractive, planting can become an eyesore if the time and labor isn't available to maintain it.

Election and Awards

Richard Craig, superintendent of the Camango Country Club at Cincinnati, was elected president of the Ohio Turfgrass Foundation. Elected to serve with him were: First vice-president — Tom Evans, Velsicol Corporation; Second vice-president — Robert O'Brien, Century Toro Dist., Inc., Toledo; Treasurer — Gene Probasco, Lakeshore Equipment and Supply Company, Bloomington; and directors — William King, Princeton Board of Education, Cincinnati; and Paul Mechling, Sylvania Country Club, Toledo.

Charles Tadge, superintendent of the Mayfield Country Club of South Euclid, was named Man-of-the-Year. Other awards included: Outstanding Service — Dr. Richard R. Davis of the Ohio Agricultural Research and Development Center at Wooster; Membership — Ronald Smith, grounds superintendent at Bowling Green State University; Past President — Robert Reiman, sales service and traffic manager of the Ohio Lime Company at Woodville.

The Ohio Turfgrass Foundation presented a check for $2,400 to Ohio State University for scholarships awarded to six students. They are Randy Rausch, Brian Thrasher, Jerry Jackson, Gary Chamberlain, Richard Boehm and Thomas George Vanden Enden.

Chamberlain, Vanden Enden, and Thomas Urbansky receive scholarships from the Golf Course Superintendents Association of America.