

# PURDUE TURF PROGRAM FOCUSES ON STUDENTS

By ROBIN RICHARDS, assistant editor

A grant from the U.S. Air Force was the unlikely origin of the first university turfgrass research and education program at Purdue University. From this peculiar beginning, the program has since grown over the years and sent almost 300 graduates into the industry.

Technically, first turf program began in 1937, under the auspices of the Purdue department of physical education. It was not transferred to the agronomy department until 1940. That year, Professor George Mott had a group of students working on a runway stability project financed by the Air Force. While still working for the Air Force, a number of students shifted their interests and ideas toward golf greens. During the war years, the program's concentration remained on the original work in turf stability for runways. Though the program was still functioning after the war, as a result of the Air Force grants, Mott and his aides turned primarily to golf course and pasture work.

The golf course area got a big boost when the Midwest Regional Turf Association and its foundation formed. No longer dependent upon sporadic grants from the Air Force, the Purdue turf researchers could finally count on a consistent income from the association for their research. With this security, the program began to roll.

In 1950, William Daniel, the current head of the program, was hired as the first full-time turf researcher. George Mott was then able to devote his full time toward work on pasture. When the chemical 2,4-D was introduced, Daniel and his colleagues were able to make a concerted effort in the study of turf quality and selective weed control that was not possible before. Concurrently, Purdue graduated its first turf student in 1952.

During this period, the accomplishments at Purdue were being



W. H. Daniels

supported by the strong regional membership that was being built by the MRTA. The annual Midwest Regional Turf Conference held by the association had become extremely popular as an educational resource for the area's turf managers. Each year from 1948 on, the activities and speeches at the conference were published for reference in the Conference Proceedings. The conference reached a peak attendance in 1963 when 700 members and visitors were present.

By 1963, of course, Purdue was no longer alone in the field. Similar programs were growing in other universities around the country. The MRTA and Purdue can lay claim to being the model for many later curriculums, although they lost the support of some of the fringe areas to the research stations

at Michigan and Ohio.

Dr. Daniel emphasizes that Purdue still stands out for having the most extensive undergraduate four-year program. Normally, about 50 undergraduates with a turfgrass concentration are enrolled at any one time. Of those that complete the course, Daniel estimates that up to 90% stay in the green industry.

As Junior Jennifer Scifres explained, the curriculum consists of basic schedule of biochemistry, microbiology, organic chemistry and soils courses. Turf concentrators then take three specific courses: basic turf management, turf science and a seminar that allows the students to go beyond the books and formulate their own theories and solutions to turf issues.

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In conjunction with the educational functions, Purdue also produces a constant stream of research findings to improve the quality of the region's turf. Both Drs. Daniel and Freeborg are credited with much of the significant early work in the use of arsenic for selective weed control. In the period from 1951 to 1975, their work shifted from lead to calcium arsenates. Each was a popular subject that the professors frequently lectured on. Consequently, the research and promotion of this treatment was a major part of the turf program from 1951 until it was banned in 1975 because of its tendency to drift. Stemming from that development, a current project in the department is research in to a flowable form of the arsenate herbicide.

Daniel rates the PURR-wick system as one of his major accomplishments, describing it "the best thing I've ever done." An acronym for Plastic Under Reservoir Root (Zone), the PURR-wick system was

developed in 1966 for greens in need of exceptional drainage. It incorporates an impermeable plastic base topped with drainage pipes and a sand medium. The grass is then planted in the sand, providing the entire system with superb drainage.

The concept behind the PURR-wick system was taken one step further with the advent of the Prescription Athletic Turf (PAT) System. This advancement entailed connecting a pump to a similar drainage system, enabling the turf manager to remove water at will during the wet season and irrigate from beneath the turf to conserve water during dry periods.

The breeding of new grass varieties such as Sodeo and Wabash bluegrasses has been another contribution of the turf department.

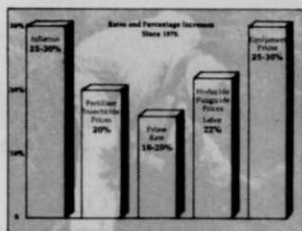
The researchers are currently working on projects involving adding fiber to root zones, growth regulator application on the roots of bentgrass and the development of a new dwarf type of bluegrass.

The research group made up of Drs. Daniel, Freeborg, a technician and nine part-time student helpers, has been making itself accessible to companies to assist with research and development. Headed by Dr. Freeborg, these projects are financially beneficial to the turf area which receives less than \$100,000 annually out of the Agronomy Department's \$3 million budget.

With the Purdue turf program in a relatively secure position, Daniel can see himself eventually easing into retirement. First, he would like to gradually give up some of his responsibilities to a younger individual who could then move in to a tenure track and take over on a full time basis.

Daniel does not expect the size of the research staff to change much either. Purdue's turf department is definitely leaning in the direction of the undergraduates, and will most likely continue to do so. The University is comfortable in the educational role it has carved for itself. **WTT**

**LANDSCAPE** from page 46



**STATE OF THE LANDSCAPE INDUSTRIES**

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The 1978 Census of Agriculture lists 1,060 growers, using 98,472 acres to produce \$206,611,000 on sod and sprig sales. Since prices have not increased and acreage may now be shrinking, the 1978 figures should be similar to those of the next census.

The bankruptcy of Roll N Grow, a company making a sod mimic with seed imbedded in a rolled jute base, also points to weakness in the acceptance of the technology involved in laying down sod or simi-

lar product. Erosion control remains a solid market for sod products. So does commercial and residential construction when they recover. Sod has a future and a niche that other products can't fill.

Whereas the sprig market in the Sun Belt has a bright future, the sod market will adjust to balance supply and demand. Prices have to go up. The small grower filling the gaps during good times and keeping prices down has to be discouraged from reentering either by certification or lack marketing ability.

**The Arborist**

Nature is lending a hand to this stable landscape industry. The spread of the gypsy moth has offset any decreases caused by the economy.

Erik Haupt, president of the National Arborist Association, says, "The general consensus of our members was that the current economic crisis has not affected our industry to the degree it has many

other businesses. Interestingly enough, our officers and directors from areas particularly hard hit by inflation/recession indicate demand for their services is back to normal after a slow start in the first quarter."

Still, Haupt is concerned about the impact of growing insurance,

"Arborists in hard hit areas report demand normal after slow first quarter."

tax and interest costs, in a addition to increased government regulation. "Organizations that recognize the importance of responsible business practices and utilize all available technical assistance will survive and will emerge as a stronger operations," Haupt concludes. **WTT**