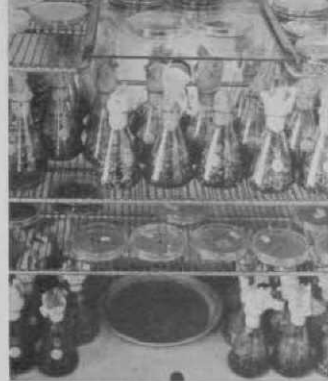


Warren's Business Is Turf Production But Pastime Is Research



The production of turfgrass, mainly Merion blue and a half dozen bent varieties, for resale, is the principal business of Warren's Turf Nursery, but outside of agricultural and agronomy stations set up for such purposes, possibly no wider range of experimental and observation work on grasses is being carried on anywhere in the country than at this large Palos Park, Ill., turf farm.

It's undoubtedly because Ben Warren, who invested in 10 acres of ground 25 years ago and founded the nursery, believes that people who make their livings from the soil should put something back into it. His repayment, he decided some time ago, would come through test plots, shadehouse, greenhouse and laboratory in which many strains of grass and their diseases can be observed under as many different conditions, both good and adverse, as can be contrived.

Golf courses, as well as home owners in the northern states from Denver to Detroit, and more recently in the New York-Pennsylvania area, have benefited from the efforts of Warren's company to produce or develop improved turf, and study how diseases make their inroads.

A one time University of Chicago student who ma-

jored in botany and chemistry, Ben Warren confesses to what can be compared to a small boy's fondness for tinkering with motors. Only, in his case, weeds, grass clippings and disease molds take the place of armatures and brushes. He has been tinkering with turf for the last 35 years on a fairly intensive basis, only the trouble is, as Ben points out, that since his main occupation is producing grasses on a commercial scale, he can't devote as much time to his pastime as he'd like.

Actually, the experimental work at Warren's Palos Park acres is directed by Dr. Timothy Gaskin, a plant pathologist who earned his undergraduate degrees at the University of Delaware and the University

of California and then went to Purdue to study for his doctorate. Ben's brother, Bob, oversees the company's sales and advertising activities.

The Warren Nursery is not confined to the 600 acres that make up the Palos Park plots. Over the years, 700 acres near Crystal Lake, Ill., 200 acres at Anderson, Ind., 400 acres near Milwaukee, Wis., and 800 acres in the New York City area have been added. The company has a franchise arrangement with a grower in



Tim Gaskin

Ben Warren

... something in the pot.



Ben and Bob Warren check various grass species that are getting a shadehouse test. Below, the look over their fields of Merion.



A group of Midwest supts. show great interest in Merion turf that is being developed for backyard putting greens.

Denver. So, altogether there are about 3,000 acres on which Warren's bluegrass, zoysia and bent sod and stolons are produced. With its roots in the loam all the way from Denver to New York, the nursery's sales are primarily to golf courses and landscape contractors between the Rockies and the Atlantic coast.

The Palos Park nursery is typical of those operated by the Warren firm. It deals mainly in Merion, but of its 600 acres, about 50 are in zoysia, 20 in bents, 5 in fescue and another small portion in a rough mixture for highway use. The nursery, as all other Warren outlets, sells primarily sod and bent stolons.

100,000 Plus Feet of Pipe

To keep this acreage properly irrigated, it takes 80,000 feet of 2 inch pipe and another 25,000 feet in a part of the system where the pipe is reduced from 7 to 4 inches. Water is taken from creeks and wells through portable laterals made of aluminum. Pumping capacity at Palos Park is 2,600 gpm.

Both Ben Warren and Tim Gaskin take great pride in describing the physical facts and features of the company's large turf installations, and, of course, they aren't unmindful of the commercial aspects. But a fire is really set under both of them when the subject of research and experiment is suggested.

It takes very little urging for either Warren or Gaskin to take a visitor on what amounts to the \$5.75 tour of the Palos Park plots. Over in the bent section, he'll see small squares of C-19 and Arlington that may be being tested for snow-mold, and adjacent to these there may be a small green made up of patchwork bents that have been grown from seed. The experiment here may be to determine how a heterogenous group such as this resists disease. It is sprayed sparingly and the hope is to perhaps induce dollar-spot in order to see how the mixture reacts to it.

Disease Resistance Studied

In the next plot there may be a section grown from imported seeds or stolons. This, too, is being observed for its resistance to disease. Then, either Warren or Gaskin may explain that the nursery's Evansville bent, a new variety located in another plot, is being grown under certification procedures established by the Illi-

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such a venture should first contact the National Golf Foundation for its valuable assistance in providing data upon which intelligent initial decisions can be made.

Business Is Production; Pastime Is Research

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nois Crop Improvement Association and Purdue University.

One or the other of the nurserymen will tell you that the bent plots are kept mowed so that they don't re-seed, and that errant blades are removed so that the purity of strains isn't disrupted. It is pointed out that the progeny of a single plant always has different characteristics than its parent, but that doesn't necessarily mean that it is weaker.

Trying to explain this genetical fact in terms that are understandable, Ben Warren puts it this way: "You can never tell about the offspring. He may resemble the parent very closely, or he may differ completely. You might put it in terms that are familiar to golfers. The progeny that is produced may have its mother's power and it's father's finesse."

Although bents produce offspring of amazing variability when they go to seed, bluegrasses aren't similarly affected. So far as people who grow Merion on a wholesale scale are concerned, this is a blessing. If they had to worry about the purity of strain in acre after acre of turf, they'd never get into the nursery business.

In recent years, the Warren company has developed what it calls "backyard putting green bluegrass" for golf buffs who want to take the game home with them. This is a refined grass that is kept under close watch for vigor in encroachment and disease resistance. And, like any favored project, it receives special fertilization.

Shade Tolerance

In the shadehouse at Palos Park, bents and bluegrasses are constantly checked to see how much sunlight they must have to survive. There is considerable variability in the shade tolerance of the two strains, but it is agreed that each must get at least 35 per cent of available sunlight if it is to thrive. When either bents or bluegrasses receive less than 25 per cent of available sunlight, they simply refuse to grow, according to Gaskin.

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One sleeper in the shadehouse is a bluegrass known as A34. It requires a good deal less sunlight than Merion and only shows sign of fading or becoming dormant when it receives as little as 30 per cent of available sunlight.

Extensive observations of bents, fescues and bluegrasses are made in the Warren greenhouse. All are pure strains and great care is taken in keeping out foreign seeds or plants. The test for the vigor of these various species is made through observation of their leaves, color and density. Diseases are induced in some of the flats to find out more about resistance and control of the different types of turf, and some cross-breeding experiments are carried out.

POA Has Potential

Ben Warren and Tim Gaskin have studied poa annua long enough to feel that it has much potential. Like all bluegrasses, cross breeding is difficult but they are of the opinion that its longevity can be extended. They reason that this species doesn't actually die of old age, but year in and year out is the victim of disease. Thus, through selection and

proper management, its perennial characteristics may emerge.

In addition to the experimental activity that is carried on at the Palos Park nursery, the Warren company maintains bentgrass test plots at Huntley, Urbana, Springfield, Ill. and St. Louis, Mo. Selections under observation come from three Chicago area golf clubs — Bob O'Link, Northmoor and Twin Orchard.

Grau's Questions & Answers

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aerifier holes with calcined clay. Next time I would like to use coarse sand. Just what is "coarse sand"? We have Pennlu greens. Should this grass be kept somewhat dry? We have much poa. Is there anything much we can do but try to get a good turf? I know we should mow 3/16 of an inch or less at least four times a week but we are not given enough help to do it. We are furnished some very good black dirt which comes from low ground and has just a few weed seeds in it. (Indiana)

A. Your aerifying program is sound. Filling holes with a 50-50 mixture of coarse sand and calcined clay has worked out well on many courses. Your dilemma is a common one. Your grass needs to be kept on the dry side which, of course, makes the greens feel harder. Grad-