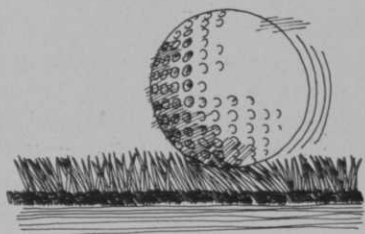


fine green winter

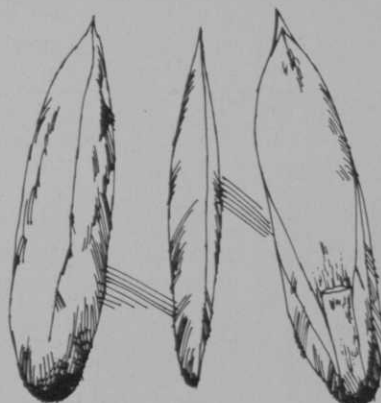


Putts true.

Medalist 2 makes a smooth playing surface when you need it most — during winter when traffic is likely to be the heaviest. Unlike common ryegrass, Medalist 2 grows slower, more upright, and does not stool late in the season.

Medalist 2 is easy to plant.

Medalist 2 seeds flow evenly through the spreader without bridging and work their way down into the bermudagrass. There are approximately 300,000 seeds per pound of Medalist 2. A seeding rate of 40 to 45 pounds per 1000 sq. ft. will produce a quick, thick, uniform stand.



Summary of live plant counts
from all tests

KOBAN Seed Treatment	Average live Plants	Percent of Check
4 oz. per 100#	271.1	175%
2 oz. per 100#	237.3	153%
1 oz. per 100#	214.7	138%
Check (No KOBAN)	155.0	100%

Resists disease. Pythium-protected with KOBAN.

Medalist 2 seed is treated with KOBAN. This protects the germinating seed and seedling from pythium damping off during the critical germination week. Medalist 2 also carries good bred-in resistance to Cottony Blight and Dollar Spot.

For more details on new, fine-leaved
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"If CUTRINE worked only half as well as it does, I would use it because of the safety factor.

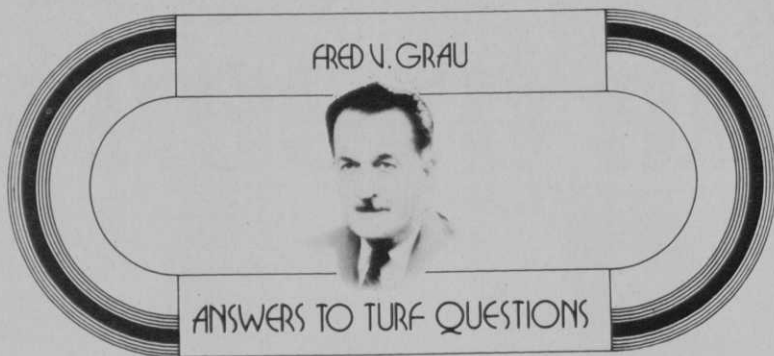
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"CUTRINE is absolutely the best there is for algae control."

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CONTROVERSY IN THE CRABGRASS BELT

Time was when turfgrass managers really worried about crabgrass in the crabgrass belt. With efficient selective chemicals, both pre- and post-emergence, no one is that much concerned today. The big question now is, "Which grass shall I go with?" Just about the time we think we have a sure answer nature does a flip and changes seasons on us.

In the late 1940s and early 1950s U-3 bermudagrass looked like a sure winner. It moved steadily north and was used widely in the Philadelphia area, even in New York City. Then in the early 1960s nature dealt this interloper from the South a blow to the gut. Huge plantings were wiped out, mainly because an early warm spell started new growth, only to be killed off by heavy late freezes.

In the 1950s Merion Kentucky bluegrass soared to unprecedented heights, only to be crushed by unforeseen diseases, enhanced by heat and humidity, which are part and parcel of this transition zone.

The zoysiagrasses were very much in the limelight at this time because research at Beltsville and at other stations confirmed their reliability for winter hardiness and tolerance to heat, diseases, insects and close mowing. The big trouble was "slow spread," and the necessity for costly vegetative planting. Seed was unreliable, slow and difficult to establish. Also the billbug finally made "hash" out of unprotected turf.

The spring of 1972, cold and wet, was not designed for the best growth of bermuda or zoysia. *Poa* flourished, then died out when hot weather came, leaving great gaping

holes in the turf. The best procedure at this point seems to be to seed hulled bermuda quickly to provide a playing turf, followed in early fall with another overseeding of selected cool-season grasses that have a chance of surviving.

After working in this confusing area for 41 years and having innocently added to the confusion by well-intentioned releases and recommendations, I am now forced to draw certain conclusions:

1. A monoculture of any one grass cannot be depended on;
2. The highly variable climate dictates a flexible attitude toward combining or alternating warm and cool-season grasses;
3. Now that we have available to us excellent equipment for efficiently introducing seeds of grasses into established turf without stopping or interfering with play, we will see a great deal more of this action. This is all the more valid now that we have fast-growing elite ryegrasses and sturdier, more dependable bluegrasses. For quick action in hot weather, we can depend on hulled bermudagrass seed even though we expect it to suffer during winter.

It has been said facetiously that the way to grow turf in the Washington area is to encourage crabgrass during the summer and overseed with ryegrass in the fall for green turf through the winter until crabgrass takes over again. At Beltsville we tried to approach this concept by combining Meyer zoysia and Merion bluegrass. By managing the fertility to keep the two perennial grasses in balance, we developed some outstanding and exciting turf. The idea fizzled because 1) zoysia was too slow and too expensive to establish and 2) we had no good method of establishing Meri-

continued on page 15

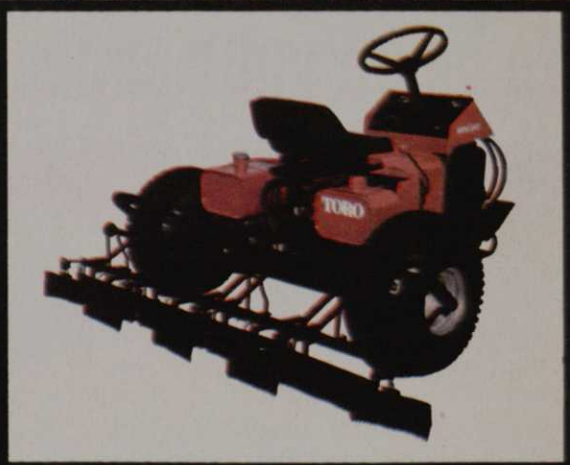
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GRAU *from page 12*

on bluegrass in the zoysia turf.

This brief discourse may do little to settle any controversy, but, hopefully, it will encourage thought-provoking seminars on the best approach to this perennial problem.

Q—*Our Tufcote bermuda tees lack vigor. Some are one year old, some two, some three. We started using 38-0-0 this year (P, K and pH are at good levels) for the first time. Someone suggested resodding. I am holding out for overseeding. What is your opinion?* (Maryland)

A—First, stimulate the bermuda with weekly applications of sulfate of ammonia at five pounds to 1,000 square feet (yields one pound of N). You won't reach peak performance with Ureaform until the second year when a reserve has been built up. With your scarifier seeder cut seed into the tees in two directions applying about four pounds to 1,000 square feet of this mixture: three pounds Palomora blend of ryegrasses (Pelo, Manhattan, Pennfine) and ½ pound each of Pennstar and Fylking. Stay with the UF program. Terminate the sulfate of ammonia applications when you have achieved good growth (two to three weeks). I advise against resodding.

Q—*We have parts of our rough and unused area on the golf course literally overrun with common milkweed. It is a big plant that attracts the Monarch butterfly and produces wonderful flowers and later, big pods that when ripe, release winged seeds that travel for miles on the wind. Should we try to eliminate it or does it have a use?* (Ohio)

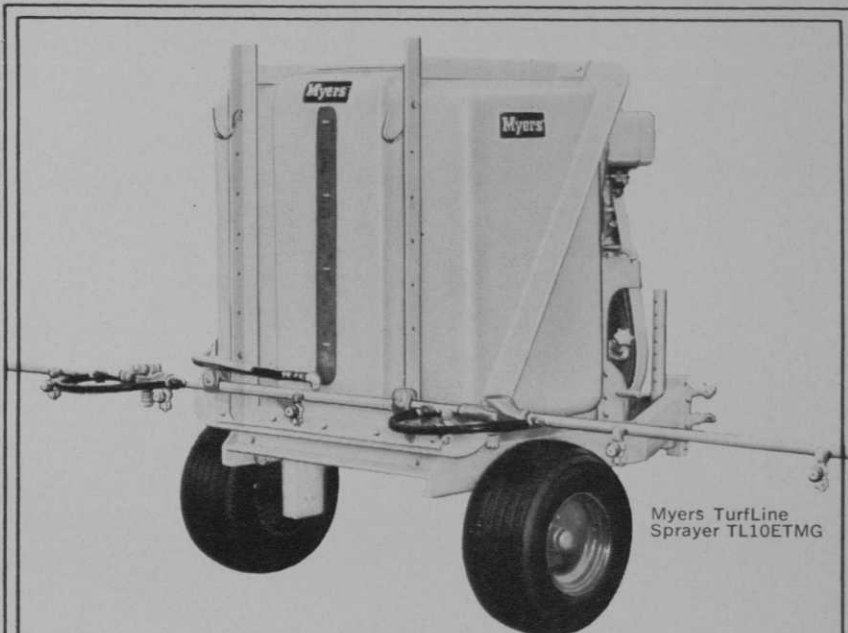
A—I may not be the right person to ask about milkweeds. I love them! I pick the unopened flower buds along with the tender leaves just above them and cook them as I would broccoli. The difference is that milkweed, properly prepared and seasoned, is far superior to any broccoli I've ever eaten. Later when the young tender pods are forming, I will gather, cook and freeze them, too, for my winter supply of greens. Warning! Avoid milkweeds that have been sprayed with poisons.

I know that some of my readers will ask in wonder, "Has Dr. Grau become dotty in his advanced age?"

The answer is no! I only wish I had known earlier what I know now about living off nature's bounty—for free.

Q—*We have been given solid evidence by scientists that the new elite fine-leaved turf-type ryegrasses are comparable in leaf width to the better Kentucky bluegrasses. To our dismay we cannot buy (or sell) "Certified Sod" in some states because it contains these elite ryegrasses. Can you explain this discrimination?* (New York)

A—Time was when the coarse-blade annual (common) ryegrass was relegated to a classification labeled "coarse." The rapid development and acceptance of the elite perennial ryegrasses has caught some of the certification agencies with their "plants down." They appear to be oblivious to facts and continue to think of ryegrass in the old, outmoded sense. If I were an official of a certifying agency, I would do all in my power to certify turfgrass mixtures that contain the new breed of perennial ryegrasses. □



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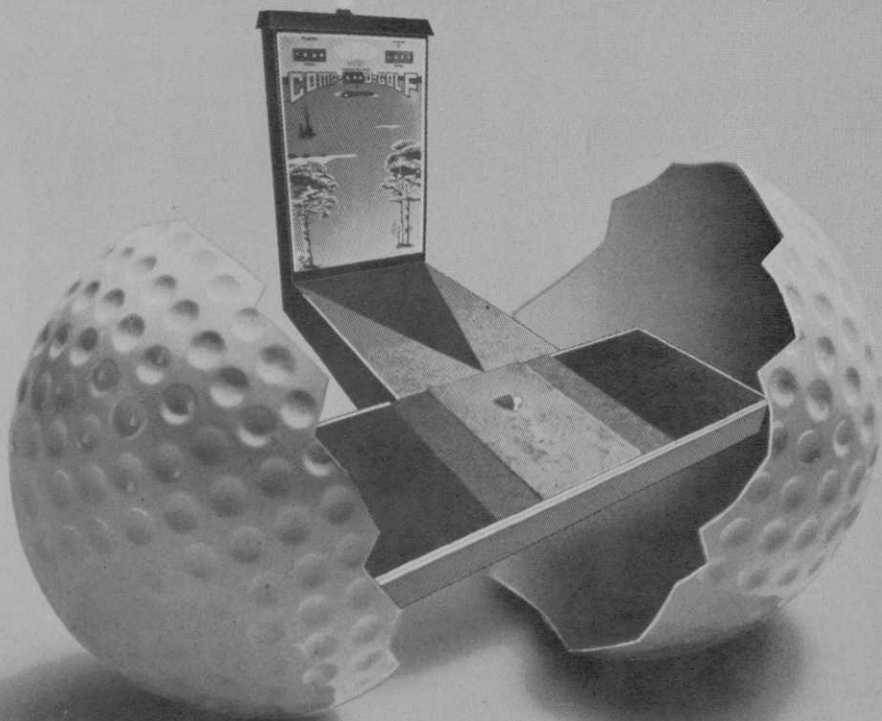
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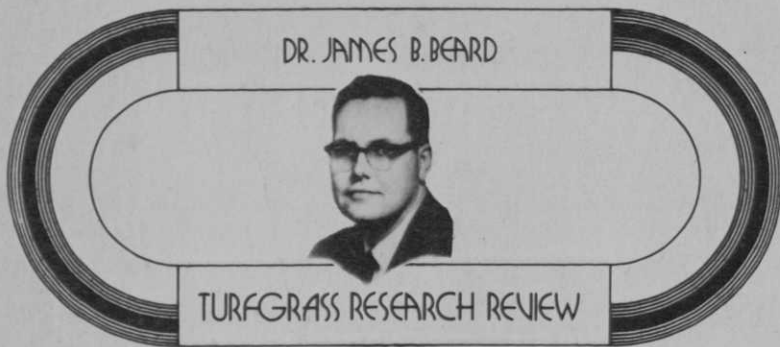
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POA ANNUA:

STILL HOLDS SURPRISES

Factors influencing competition of annual bluegrass Poa annua L.) within established turfgrass communities and seedling stands. J.E. Bogart. 1972. Michigan State University Master of Science Thesis. pp. 1-75. (from the Department of Crop and Soil Sciences, Michigan State University, East Lansing, Mich. 48823).

The objective of this investigation was to study the influence of temperatures, cutting height and comparative rooting rate on the competitiveness of annual bluegrass in both seedling and established turfgrass stands of Merion Kentucky bluegrass and Penn-cross creeping bentgrass. Conclusions concerning temperature effects were obtained by a combination of (a) controlled climate growth chamber studies and (b) seasonal phenological observations made under typical turfgrass conditions in the field.

The controlled climate growth chamber studies involved an evaluation of the quantity of shoot and root growth produced by each of the three species, annual bluegrass, Merion Kentucky bluegrass and Penn-cross creeping bentgrass, when grown at eight temperature levels (10° F intervals) in the range from 40° to 110° F. The turfs grown in cups were retained in each of the individual temperature treatments for a period of 30 days before being removed and measurements taken of shoot density and total quantity of root and shoot growth produced. Clippings were also collected at five day intervals throughout the 30-day treatment period at each of the temperature treatments. The cutting

height was 0.75 inch. In addition to the growth responses, observations were made of seed germination rates and seedling vigor at each of the temperature treatments.

The phenological observations involved seasonal determinations of growth over two growing seasons, from 1970 through 1972. Five representative turfgrass locations where annual bluegrass was a component of the turfgrass community were included. These were (a) a Toronto creeping bentgrass putting green, (b) an irrigated Kentucky bluegrass lawn turf mowed at 1.2 inches, (c) a putting green apron mowed at one inch, (d) a golf tee on a par-three hole, which was predominantly annual bluegrass and (e) an unirrigated sports turf composed of Kentucky bluegrass mowed at two inches. Frequent observations were made from early April through to growth stoppage in the fall. Soil temperature readings at a one-inch depth were made at each observation date. Data collected included the time of shoot growth initiation in the spring, plus the shoot length, color and seedhead production.


The author drew the following conclusions regarding temperature responses under both controlled climate chamber and field studies. Penn-cross creeping bentgrass and Merion Kentucky bluegrass initiated new shoot growth earlier in the spring than annual bluegrass. Penn-cross and Merion initiated shoot growth at soil temperatures between 50° and 55° F, whereas established plants of annual bluegrass did not initiate new growth until the soil temperatures exceeded 55° F.

In terms of optimum temperatures, Penn-cross creeping bent-

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continued on page 21



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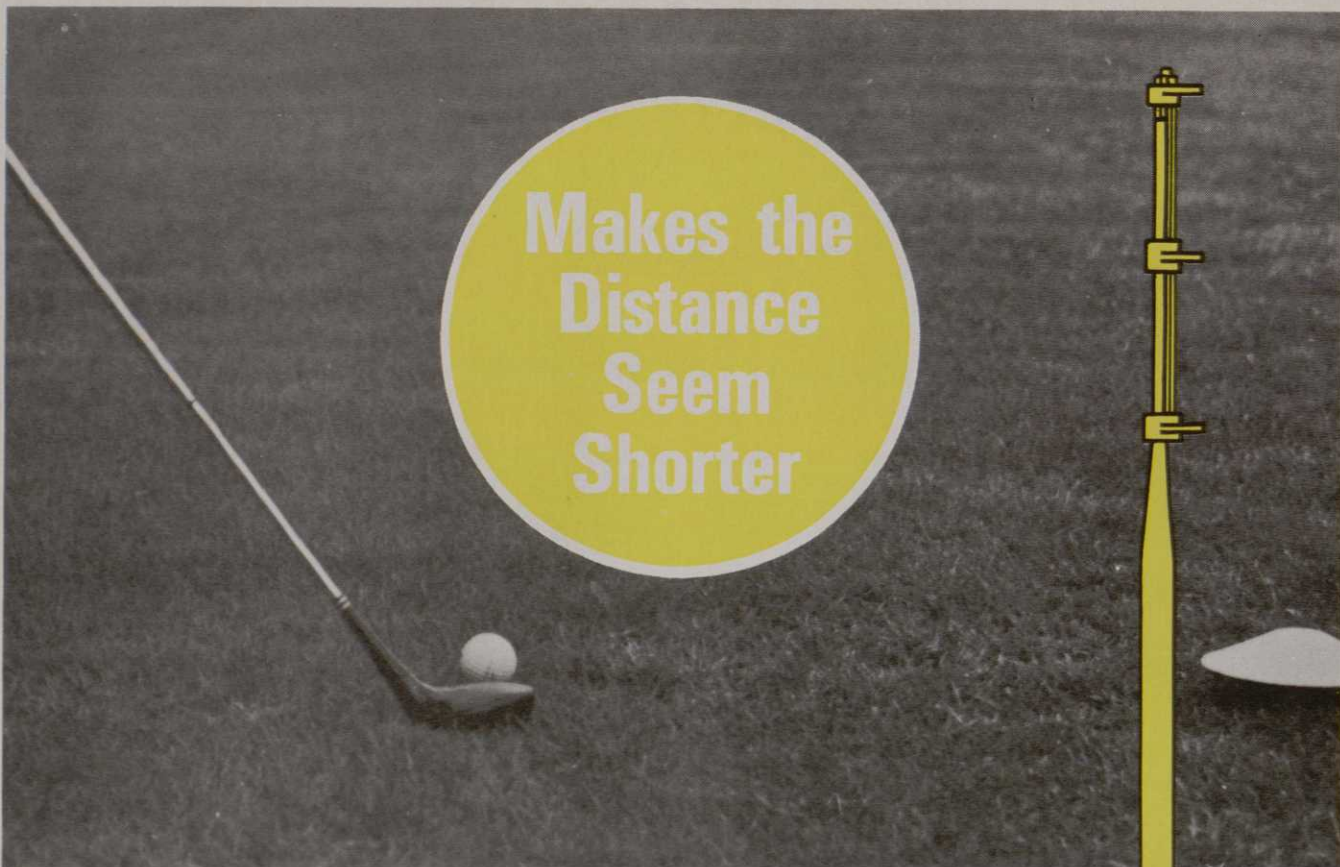
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