

tion's plan to coordinate from its main office at Beltsville, Md., turf management in all its phases (research, extension and teaching) in cooperation with state and local organizations.

It is not physically possible for the Green Section personnel at Beltsville to maintain intimate contact with turf problems all over the country. This can be accomplished best by having a number of regional directors who would work closely with established local, state and regional organizations and help organize groups to help themselves.

Mr. Wilson, as Regional Director on the West Coast, will develop an advisory committee to assist in forming sound policies and procedures. Close-working harmony with established programs will be a main aim of the regional office. The Regional Director will keep in close contact with research in order to be able to make sound recommendations. He will attend major turf conferences and field days, since this is a vital form of education.

It is believed that there exists a real need for this type of regional service to USGA member clubs and turf management in general.

### Regional Director



Charles G. Wilson, who will head the first regional office of the USGA Green Section, at Davis, Cal., has been with the Green Section since 1947. He received a B.Sc. degree at the University of Maryland in 1950 and has since served as Extension Agronomist.

## OPERATION ZOYSIA

By ALEXANDER M. RADKO and FRED V. GRAU  
USGA GREEN SECTION AGRONOMIST AND DIRECTOR

Zero hour on Z-day came at 9 A.M. on April 22, 1952, on the third fairway at Fairfax Country Club, Fairfax, Va. Battle plans had been drawn in January at a meeting of the Education and Policy Committee of the Mid-Atlantic Association of Golf Course Superintendents, held jointly with the USGA Green Section in the Green Section offices at Beltsville, Md. Responsibility was divided between the superintendents' association, the Green Section and the Fairfax Country Club. Planting material, detailed plans and supervision were furnished by the Green Section. Labor was furnished by the superintendents. The fairway under play

was furnished by the Fairfax Country Club.

Greenhouse space was cleared at Beltsville and on February 12, thirty flats (1 inch by 2 inches) were prepared with a special mixture of soil, sand and vermiculite and seeded to Z-73, a new strain of *zoysia japonica* selected in 1949 by Dr. F. V. Grau, Director of the USGA Green Section, out of Meyer (Z-52) *zoysia* seedling plants. Each flat of two square feet received one gram of seed, or about 3,000 seeds. Thus, in each flat we produced from 2,000 to 2,300 sturdy seedling plants. A total of 30,000 seedling plants, as shown in the illustration, were grown

and taken to Fairfax Country Club on Z-day for Operation Zoysia on the three and one-half acres of fairway number 3.

The 30,000 seedling plants were set into holes made with the Aerifier, equipped with one-inch spoons. In addition 4,800 two-inch sod plugs were set with the two-inch plugger furnished by West Point Lawn Products. Seedlings and plugs were set on two-foot centers, or in every fifth Aerifier hole. The Green Section furnished the sod for the plugs and these four types of sods were included:

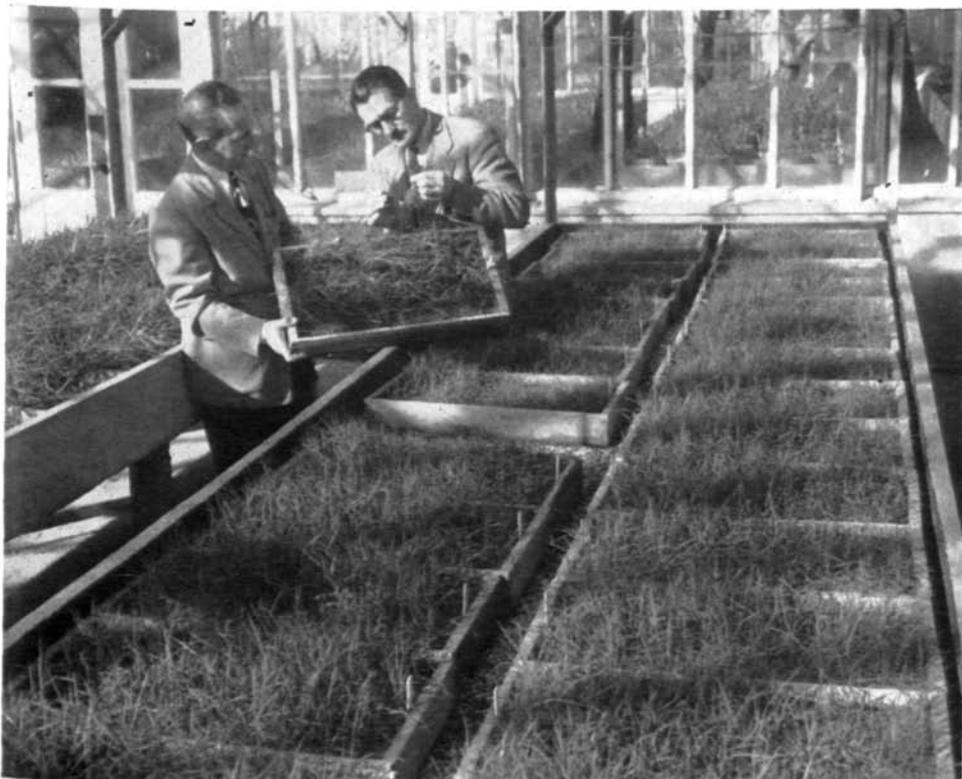
Meyer (Z-52) zoysia

Common zoysia japonica

Combination turf of Meyer zoysia and Merion bluegrass

Combination turf of common zoysia and Merion bluegrass

Mr. W. H. Glover, superintendent at Fairfax Country Club, had the fairway ready for the planting. The Aerifier was operated over the fairway during the morning before planting started. Mr. Bob Shields, President of the Mid-Atlantic Association, had his superintendents well organized into crews for efficient operation. Fifty-five persons were there to accomplish the work, and they represented 28 separate turf organizations in the area. Among them were golf-course superintendents, golf-course laborers, men representing industry, men from the United States Government and USGA Green Section employees.



Alexander M. Radko and Dr. Fred V. Grau, the authors, preparing in the greenhouse at Beltsville, Md., for their end of Operation Zoysia. The flats contain seedling plants of Z-73, a new and vigorous type of zoysia selected by Dr. Grau, Director of the USGA Green Section.

Operation Zoysia was a huge success. It took 275 man hours to complete the job on three and one-half acres, or about 80 man hours per acre. This is considered a reasonable figure for establishing a permanent turf of adapted grasses which probably will never again need replanting or reseeding. In other words, we consider the first cost to be the last.

It is expected that it will take about two or three years for the zoysia to spread and develop a solid dense turf. This project will advance our knowledge of zoysia turf under heavy play years ahead of any program that would have to wait for adequate seed supplies to be available at reasonable cost.

Z-73 zoysia is a good seed producer, but it will be several years before there will be any commercial seed supplies. When it becomes available, the seed probably will sell for a couple of dollars an ounce. At this rate, enough seed to plant an acre would cost about \$1,400, which is completely beyond anyone's wildest dreams. One ounce of seed, grown as seedlings and transplanted into established turf, would plant at least two acres, which would make the seed cost negligible. The labor cost, as we have seen, will run about \$100 an acre, doing it by hand—far less when we do it mechanically, as the Green Section has done so successfully.

Thus, through Operation Zoysia, we have written another chapter in the book of Better Turf. We believe that this is the first complete fairway in the United States to be planted to zoysia. Small patches of various types of zoysia exist



Zoysia seedling

on the fairways of a few golf courses. Our profound faith in zoysia, as one of the answers to near-perfect fairway turf, has been shared by the golf-course superintendents in the Mid-Atlantic Association. Now we soon can say to the golfer, "What do you think of it?"

#### TURF TRIALS IN OKLAHOMA

"Trials of a large number of turf grasses indicate that U-3 bermuda is the best-adapted strain at Stillwater. A winter-hardy strain of Centipede grass has survived since 1935. The zoysia strains of turf grasses have been difficult to establish because of slow growth. Kentucky bluegrass grows well in shade, but it requires a large amount of water and considerable care to survive in Oklahoma." —*Agronomy*, p. 10, 1950 Biennial Report, The Oklahoma Agricultural Experiment Station, Oklahoma A. & M. College, Stillwater, Okla.

#### METHYL BROMIDE KILLS BERMUDA

"Bermuda grass can be eliminated from around bentgrass golf greens by methyl bromide, and the bentgrass can be replanted 48 hours after treatment, turf researchers report. They are seeking improved techniques for using the chemical. This work is supported by a grant from the United States Golf Association." —*Agronomy*, p. 8, 1950 Biennial Report, The Oklahoma Agricultural Experiment Station, Oklahoma A. & M. College, Stillwater, Okla.