

from years past, will germinate under optimum conditions. When this happens, spray it to prevent the seed on the plant from maturing and eventually, in theory at least, no more *Poa annua*. This thing seems so simple that it sounds unbelievable and probably is. At least sodium arsenite, at one pound per acre, does no harm to existing turf and the best way to find out how much good it does is to try it out for yourself on a small scale.

Let me repeat one warning which must be observed in the use of sodium arsenite. Never apply sodium arsenite when the soil is bone dry. Severe discoloration will result, even with the one pound method, although the turf will recover quickly when water is applied.

Research Boosts Seed Yields of Japanese Lawn Grass

Superior strains of Japanese lawn grass (*zoysia japonica*) can be managed to produce more than 500 pounds of seed an acre, report plant scientists of the U. S. Department of Agriculture and the U. S. Golf Association Greens Section.

This means that research has overcome a big obstacle to its use in this country—a shortage of planting material. Small amounts of seed are being released through commercial seed firms and will be available to the public as rapidly as it can be increased.

Widely adapted, the new selections are of special interest in the Crab Grass Belt—the Middle Atlantic States west through Missouri. They produce a slow-growing, dense, tough, springy turf that can hold its own against invasion by weed pests.

The current work on seed production was initiated at the Plant Industry Station, Beltsville, Md. in 1945 to improve turf species for the United States.

The Oriental zoysias—Japanese lawn grass and Manila grass—were among the species selected for study, says Dr. Fred V. Grau, in charge of the research, because of their ability to make a dense turf. Although they had been known in this country for many years, this was the first basic research work to be done on them from the standpoint of breeding and seed production.

Seed production on common Japanese lawn grass is low and unpredictable. One of the first studies at Beltsville was to find nutritional factors that increased seed production in the superior strains. Dr. Marvin H. Ferguson, plant scientist, found that high levels of nitrogen, required for grass production, are not necessarily conducive to seed production. His results indicated that boron, together with balanced feeding, holds the key to increased seed yields. On the basis of these findings the Beltsville plots receive a mixed fertilizer (10-6-4) and then a separate application of boron.

In studying seed yields the Beltsville re-

searchers have found some strains yield no seed at all, others may produce several hundred pounds to the acre. Cooperative studies are in progress in other parts of the country to determine seed production possibilities in other areas.

Zoysia Spreads Rapidly

Dr. Grau makes the point that a little zoysia seed goes a long way. He estimates that an ounce of seed of the superior new strains will produce enough seedlings—spaced at 2 feet intervals—to plant 6 acres. Once established, the zoysia spreads rapidly. Experimental plantings at various locations across the country show that a square inch of turf will give full coverage over a square foot of soil within two years.

Other studies at Beltsville have shown that mechanical hulling or chemical treatment speeds up seed germination and that fungicidal seed treatments increase the emergence of seedlings.

Although zoysia makes a thick turf in shade and in sun, it has one marked disadvantage. A warm season grass, it turns brown during cold weather, becomes green again when the temperatures rise. For an attractive year-round lawn, the plant scientists say zoysia should be teamed with blue grass, fescues, or other cool-season species that remain green in fall and winter.

The scientists believe that continued research will produce zoysias that stay green over a longer period and have other good qualities. But that will take several years. Meanwhile, the superior strains now being increased on small plots at Beltsville promise valuable planting material for lawns, parks, athletic fields, golf course fairways, and cemeteries.

USGA Green Section Turf Field Days, Oct. 7-9

The 1951 National Turf Field Days will be held October 7, 8 and 9.

Sunday evening will be devoted to progress reports by Turf Research workers and graduate students and a discussion of plans for further research to meet current needs.

Monday will be the big day, during which visitors will see the experimental plots at Beltsville as well as practical demonstrations of new grasses and new practices at a local golf course. Monday evening again will be devoted to a dinner and talks by leading turf authorities.

Tuesday, October 9, will be a "free" day for anyone's choice.

Reservations for rooms should be made directly. Tourist cabins near the Plant Industry Station include:

Del-Haven White House Cottages, Berwyn, Md., Canary Cottages, Beltsville, Md., Stewart Cottages, Beltsville, Md. and downtown hotels, are available.