

REPORT ON TWO IMPROVED TURF GRASSES

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Recent publicity has tended to create in the minds of some the illusion that the USGA Green Section has created a "miracle grass", a "wonder grass" and other unlikely developments. These sensational terms are not the words of the Green Section nor of any research men associated with the National Coordinated Turf Program. They are terms applied by writers to some of the improved turf grasses which the Green Section has helped to develop. The performance of some of these grasses, as described by me in several articles and as told to the press in a conference at "Golf House" on May 5, 1952, is so good that actually they seem to do the impossible. It is the purpose of this article to put the record straight and to evaluate some of the recent developments in superior turf grasses for our readers.

Merion Bluegrass

Merion bluegrass has been described in the USGA JOURNAL (April 1950), in SEED WORLD (December 21, 1951), in THE FLOWER GROWER (March 1952) and in other publications. Merion bluegrass is a superior turf bluegrass, and these points may be listed wherein Merion outperforms common bluegrass.

1. It thrives under close mowing, as low as $\frac{1}{2}$ inch.

2. It is highly resistant, but not immune, to leafspot disease. Common bluegrass all over the northeastern states this spring was severely injured by leafspot. Merion was only slightly affected.

3. The drought tolerance of Merion is of a very high order, compared to common bluegrass.

4. Merion turf consistently has less crabgrass than common bluegrass turf, all other conditions being equal, particularly at low-cut which is essential in golf turf. Common bluegrass, which often is nearly destroyed in the spring by leafspot, cannot resist crabgrass invasion. Merion bluegrass turf is not thinned by disease to the same degree and thus

tends to eliminate crabgrass by competition. Merion can be spring-seeded successfully in Washington, D. C. Common bluegrass has consistently failed when spring-seeded.

These qualities are highly desirable in a turf grass, but they do not make Merion a "miracle grass." Merion has some qualities which are not entirely on the credit side. The greatest handicaps at present are scarcity of seed and high price per pound. These factors are temporary and will be corrected as production increases to meet the demand and as competition and supply drive the price down. Other factors have tended to offset the feverish optimism and here are some:

1. Merion bluegrass is difficult to establish because the seed is slow to start to establish a turf. People with a ryegrass complex shouldn't waste time with Merion. It will not come up in five days like ryegrass.

2. Merion bluegrass suffers severely through neglect. It responds well to generous fertilization. It needs more fertilizer than most people ordinarily use. So, unless you plan to fertilize as needed, don't waste your time and money on Merion.

3. Merion bluegrass suffers when watered too much. I have seen Merion fail where planted, as a small plot, into a turf area of grasses which required, or at least they got, nightly watering.

4. Merion apparently is sensitive to preparations that contain mercury. I've seen Merion bluegrass nearly destroyed where repeated applications of phenyl mercury preparations had been made. We do not know that the mercury was responsible nor do we suggest that anyone discontinue its use, but we simply mention it so that Merion users can check our observations. Tests are under way to clear this point but Merion is touchy.

5. Seeding Merion bluegrass into old established turf is a slow, disappointing process because the slow-starting seed-

lings have difficulty competing. A fresh, weed-free seed bed is the best bet, and it is still sound to seed Merion alone. Expertly done, ½ pound to 1 pound of seed to 1,000 square feet is enough. Twice that, at least, is needed with ordinary care.

Meyer Zoysia

Meyer (Z-52) zoysia has been described in the USGA JOURNAL (November 1951), in New York Botanical Garden Magazine, THE GARDEN JOURNAL (Jan.-Feb. 1952) and in SEED WORLD (February 15, 1952). Meyer zoysia is the first improved strain of zoysia to be recognized and named. It has been widely tested and has been found to be widely adapted in many climates and on many soils. Here, quoted, are my statements in THE GARDEN JOURNAL:

"It resists crabgrass and other summer weeds.

"It thrives during the heat of summer.

"It grows on almost any kind of soil.

"It is very drought-tolerant, needing less irrigation than most turf grasses.

"Turf insects do not seem to affect it.

"It is easy to mow when cut regularly.

"It needs mowing less often than most turf grasses.

"It can be mowed at heights from one-half inch to four inches without loss of vigor and beauty.

"It has a wide range of adaptation, having proved its winter-hardiness as far north as Massachusetts, Michigan, and the mountainous regions of Pennsylvania and New York.

"It produces a firm, resilient cushion of turf which delights everyone who uses it.

"It is very resistant to wear.

"It has a pleasing texture and color (about like Kentucky bluegrass) during the growing season.

"It is permanent.

"As you might have guessed, any grass which has so many good qualities has to have some disadvantages. Here they are:

"Meyer zoysia loses its green color in late fall after the first or second killing frost, regaining it in the spring about the time the weather is good enough so that people begin to use their lawns again.

"No seed is available, so that planting must be done vegetatively, i.e., by plugs of sod or by sprigging. Plug-planting is preferred and the best time to plant is when the ground is not frozen or baked iron-hard by drought. Sprigging

is best done from early spring to late summer.

"Spread of Meyer zoysia is slow compared to bermuda but is faster than Manila-grass (zoysia matrella). Two-inch plugs planted on 12-inch centers in a lawn should cover solid in two years. Competition from other grasses slows its spread.

"Winter weeds come into dormant zoysia turf. These include chickweed, speedwell, henbit, garlic, annual bluegrass, clovers, ground-ivy and broad-leaf weeds. The two most important herbicides for control of these winter weeds are 2,4-D and potassium cyanate. Seeding improved cool-season grasses into Meyer zoysia turf in early fall will go far toward eliminating most winter weeds. To date Merion bluegrass appears to be one of the best of the cool-season grasses to grow in association with Meyer zoysia."

Again, we disclaim any statement that Meyer zoysia is a "miracle" grass. It is not. But, it is so much better than any turf grass previously known in the climate, and poor soils, of Washington, D. C., that many people who have used it actually claim that it does miraculous things.

Combination Turf

The combination of zoysia with Merion bluegrass was a dream that came true. Zoysia loses all its green color with the first hard frost. Merion bluegrass is perfectly beautiful in cool weather. Zoysia is at its best in the hottest weather. Merion slows down then. The "marriage ceremony" was performed in 1947.

In 1948 Meyer zoysia and Merion were "mated," and the combination has developed a turf that is close to perfection in nearly all respects.

It must be stated clearly that the combination is a physical one. The zoysia sod is aerified and Merion bluegrass seed is sown at the appropriate time. The two grasses have lived together in perfect harmony for several years and show no tendency to separate. Our best advice to our member clubs is to establish a small nursery to Meyer zoysia, overseed with Merion bluegrass and see if it works for you. Perhaps it will not. Maybe some other grass will be better for your conditions. But the quality of the turf developed when Merion bluegrass is seeded into Meyer zoysia is such that every member club should at least try to grow it.