

were a common ordinary strain.

We can look forward to having more reliable specifications for mixing soil and soil amendments for non-compaction, heavy traffic-bearing, excellent porosity and drainage, and good water and nutrient retention. Combinations of the proper materials in correct proportions, wedded to insoluble, non-leaching nutrients, will give us the perfection we have sought for these many years.

### Aerifying Benefits

Q. I have been aerifying my greens for the past three years with a machine that punches about 36 holes to the sq. ft. I know from experience that this practice is very beneficial but will you give some good technical reasons why this is true. I want to pass them on to my members when they ask about it? —(Pennsylvania)

A. Putting greens, to be satisfactory, must be irrigated frequently and the soil must be kept moist. In this condition, under heavy foot traffic, soils become compacted. Compacted soils are starved for oxygen. Oxygen is utterly essential for activity of micro-organisms upon which most fertilizers depend in order that they may become available. In the absence of oxygen, there is no bacterial activity and many good fertilizers actually can become poisonous to the grass because certain compounds are formed in the absence of oxygen that will kill grass in a short time.

Additional benefits come in the fact that less water needs to be applied to the greens. The water that is applied is more efficient since it is absorbed into the soil. Compact soils absorb water with great difficulty. Another reason is that the fertilizer that is applied is allowed to get into the root zone where it can be the most effective.

### This Zoysia Is Outstanding

Q. Several years ago someone planted some zoysia on our course. No one seems to know what kind it is but the members notice and like it. We have given it no attention aside from routine mowing with fairway mowers. The turf is outstanding because it is weedfree, but it looks hungry at times. No one seems to care that it loses its green color at the end of the golf season. What are your suggestions for improving our zoysia and for spreading it over the course? —(Virginia)

A. From what you say, your zoysia needs nothing much except once-a-year fertilization to yield 4 to 5 lbs. of nitrogen to 1,000 sq. ft. A 2-1-1 or 3-1-1 ratio fertilizer will serve well, especially if most of the nitrogen is insoluble. The best time for applying fertilizer is at the start of the growing season. Split applications (spring and late summer) also may be made if desired. Well fed zoysia will hold its green color late into the fall.

## Tell How to Detect Products of Questionable Value

Writing in the Turfgrass Adviser, published by the University of California's agricultural extension service, Milton Fireman and Albert W. Marsh, who are connected with the bureau, warn turfmen to beware of products of questionable value. They point out that equipment and supplies, often overpriced and not designed or formulated to do the jobs they are purported to do, sometimes are sold by persons who basically are honest but probably too enthusiastic about their merits. Usually, these salesmen are long on scientific jargon in which the benefits promised are products of pure fancy, but they can't back up their claims.

According to Fireman and March, any product should be regarded with suspicion if any of these claims are made for it:

It has a secret part or contains an unknown ingredient;

It operates or acts on a newly discovered, secret principle;

It is so new that scientists haven't yet heard about it;

Use of the product gives many beneficial extra dividends, all desirable, but clothed in mysterious language;

Benefits claims are supported by large numbers of testimonials — all unsolicited, of course.

Zoysia benefits from close, regular mowing. A height of  $\frac{1}{2}$  in. on tees and  $\frac{3}{4}$  in. on fairways is approved. Much zoysia turf is ruined by mowing too high and not cutting often enough.

When drought is so prolonged that zoysia turf starts to curl and wilt, it will respond quickly to a good deep soaking. For the most part, well-fertilized zoysia turf can provide excellent playing turf with little or no irrigation except in arid regions. For non-irrigated courses it has a place within its region of adaptation.

Several methods are useful for spreading your zoysia turf: Plugging — 4-in. plugs may be set any time of the year that soil is workable; Sodding — Strips of sod may be cut and relaid; Sprigs — Excellent sprigs can be harvested all during the growing season at weekly intervals by operating an Aero-thatch, or similar machine to full depth. Each time it is used it should be operated in a different direction. The playing quality of the turf will remain good — improved, in fact. Harvested sprigs can be planted in a prepared nursery area for the production of additional sod or they may be sprig-planted during the warm season directly into fairways.