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**Answers to turf questions**

by Fred V. Grau

**Wear and tear on turf**

To stem the rising tide of synthetic turf we must know much more about the wear-and-tear capabilities of a certain grass or of a mixture of grasses. We must know the contribution of the soil mixture (sandy-clayey-loamy), of the factor of the kind and the amount of fertilizer used, of the way the turf is watered and the way it is mowed and managed. We have at our command sophisticated machines, fertilizers, irrigation systems, but do we know how to use them in a coordinated program to give turf maximum wear-and-tear potential?

A limited amount of attention has been given to this phase of turfgrass management but critical research data seems to be lacking. Special "treading" machines have been developed and used to simulate foot traffic, but we contend that nothing takes the place of actual foot traffic to which turf is subjected in the popular tourist centers.

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## Grau

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One such tourist center is Longwood Gardens located near Kennett Square, Pa., where visitors (no admission charge) are encouraged to walk on the turf while admiring many of the horticultural displays. (Visitors now number more than one million a year.) Recently director Siebert of Longwood met with representatives from The Pennsylvania Turfgrass Council and The Pennsylvania State University (Dr. Joseph Duich, Dr. Herb Cole, H.O. Wilcox and Dr. Fred Grau) to explore the possibilities of solving some of the turf problems through a coordinated program of practical research. Out of the discussion there grew one very practical idea: Grow the finest sod of the best grasses in a no-traffic area, then lay the sods in the areas where traffic is heaviest. In this way the lawn-loving public would help to determine the development of the most wear-resistant turf in which they would participate for the *second* time when they choose the grass for their own wear-and-tear areas.

We did this in a limited way at Beltsville more than 20 years ago. The representative of a shoe manufacturer and I donned the company's shoes (spiked soles vs. corrugated rubber soles) and walked forth and back (one must go forth before he can come back) until there was very pronounced damage to the turf. At this point it is not pertinent as to which grass was sturdiest or whether the spikes or the rubber soles came out on top. The point is, the damage was inflicted by people walking, not by an inanimate machine.

We do not know how many "live" wear tests are active in the United States. We do not yet know if a "live" test will be operative at Longwood Gardens. But we have not seen a better potential "action laboratory" than the mowed turf adjacent to the vege-

table gardens. Information relative to such tests in progress in the United States shall be welcomed.

*Q.—Recently we have seen an article referring to a popular ground-cover plant as "a complex vicious weed threat." Are not some of our best turfgrasses classed as "weeds" under some conditions? Are there other eco-*

*nomic plants that become "weeds"?*

*(Ohio)*

A.—You have touched on a complex subject, which is capable of considerable interpretation. Bermudagrass, one of our best turfgrasses, always has been classed as a weed in corn and cotton fields. Maryland denotes bermudagrass as a noxious weed.

*continued on page 22*



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## Grau

*continued from page 19*

Kentucky bluegrass is a weed in iris beds and rock gardens. Bentgrass is a weed in a bluegrass turf. Crownvetch is a weed in iris beds, shrub borders and rock gardens. Volunteer corn is a weed in soybean fields. Multiflora rose, once thought to be the answer to living fences for livestock and crash barriers for median strips

between highway lanes, now is threatening pasture lands over a wide area. Kudzu, long promoted by governmental agencies as the answer to erosion in the South, has gone berserk swallowing buildings, bridges, farmlands at a prodigious rate. Honeysuckle, for many years specified for erosion control on highway slopes, is in serious decline for its weed tendencies in climbing fences, shrubs, trees and in invading farmlands.

Yes, there are many economic plants that, under a given set of conditions, may be considered weeds. *Asclepias tuberosa*, the orange milkweed, is classed as a weed, yet it is one of our most strikingly beautiful wildflowers. It is one of my favorites. Chicory in a farmer's wheat field is a weed, yet who has not thrilled to its heavenly blue flowers early in the morning along a country roadside.

We have only touched on the subject but I'm sure that you, and many other GOLFDOM readers, have examples of your own.

*Q.—In our group we can't seem to agree on the question of when to aerate the greens. Should it be before or after fertilizing?*

*(Pennsylvania)*

*A.—I've seen greens that were aerated and then fertilized. It created "green measles." The grass grew best immediately adjacent to (and around) the aeration hole. Putting was bumpy for quite awhile. I prefer to fertilize in advance of aerating so that the grass is growing uniformly and will more quickly heal the scars.*

*Q.—What would you consider a rule-of-thumb recommendation for a topsoil that ranges from sandy loam to loamy sand in respect to using it for putting construction? What volume material would you judge necessary to make a satisfactory mix?*

*(Vermont)*

*A.—Without seeing samples of the soils and without screen tests to determine particle sizes, I wouldn't even hazard a guess as to relative volumes of materials. At one time, before we had laboratories for running compaction and percolation, I would have made an educated guess as to proportions. In these days of heavy play I would advise consultation with a good testing laboratory. □*

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