The problem today lies in the difficulty of making bentgrass more competitive during the growing season. This isn't difficult in fairways where the bent stolons have about a half-inch of growing room. But vertical space is hard to come by on a green where the cutting edge of a bed-knife is only one-eighth-inch above a firm surface. Mike Bavier at Inverness in Chicago commented on the vertical threshold in bentgrass spread between fairways and greens a few years ago. Just what that threshold is still not known. It may be purely academic, because we are unlikely to see high-cut, slow greens again.

We need a feasible program to not only weaken or eliminate **Poa annua** but to make the bentgrass more competitive. To weaken poa without improving the bent just makes the turf chronically weak, usually in the most important areas on greens where the holes are cut or the walk-on/walk-off traffic is concentrated. I am concerned by the implication that growth retardants selectively affect **only** poa and that they will open the door to automatic bent encroachment into the poa-infested surfaces of closely mown putting greens. That idea is no more valid than a groomer being substituted for a verticut. We **just wish** it were true. It seems to me that interseeding into weakened poa must be a part of the procedure, with appropriate after-care. Or perhaps just seeding at every topdressing?

This takes us, again, back to the basics of what makes plants grow — but we have to make that read **defoliated plants**. Among the requirements are well developed root systems, an adequate amount of sunlight (for the remaining leaves or parts thereof), adequate fertility and moisture, adequate soil oxygen and protection against pests. It's getting harder to survive on a diet of magic potions, but even harder to perform some of the necessary cultural programs without interfering with an increased number of golfers every day. Working smarter and talking more convincingly have never been more important than they are today and that may call for assessing the programs of fellow superintendents who are dealing with similar problems, questioning "experts" and just "visiting around." The nineties will not be a good time to paint oneself into a corner by failing to look at the whole picture.

Turfgrass Video to be Shown in Las Vegas

The video "Turfgrass Management: Your Field of Dreams" that was developed at the University of Illinois and premiered at the NCTE in Springfield will be shown after the morning and afternoon sessions on "Golf Course Management Techniques" at the GCSAA educational conference and show in Las Vegas. These sessions are on Saturday, February 9, 1991 at the Riviera Hotel. Your support for this activity would be greatly appreciated. Please try to attend the presentation and convince other superintendents from other parts of the country to attend. The video highlights some of the possibilities that students with an education in turfgrass management have available to them when they graduate. The video project was sponsored by CIBA-GEIGY, Deere & Co., Spraying Systems Co. and the Illinois Turfgrass Foundation. To obtain a copy of the video, send a check for \$20 made out to the University of Illinois to: Turfgrass Video, 1201 S. Dorner Drive, Urbana, IL 61801. The video will be mailed in late January.



Creeping Bentgrass Response to Phosphorus and Potassium on a Sand Medium

J. D. Fry, M. A. Harivandi & D. D. Minner HortScience, 1989

Creeping bentgrass is widely used for turf on golf greens in the United States. To encourage drainage and minimize compaction, golf greens are typically constructed of soil mixtures containing 75 to 100 percent sand by volume. The use of soil media containing high percentages of sand greatly affects turf fertility programs, primarily due to increased leaching of nutrients and a lower soil cation exchange capacity. Nitrates and potassium are readily leached from coarse-textured soils; phosphorus tends to form complexes with other elements and is less prone to leaching.

Nitrogen has its greatest effect on turfgrass shoot growth and it encourages root development of creeping bentgrass when applied judiciously. Phosphorus increases turfgrass root growth and lateral stem development. Potassium encourages turfgrass root growth and increases resistance to environmental stresses.

Research at Colorado State University has been conducted over 8 years on a sand medium to determine creeping bentgrass quality response to phosphorus and potassium. Phosphorus was applied at rates of 0, 5 and 11 kilograms per hectare (0, 4.5 and 9.8 pounds per acre) and potassium at 0, 4 and 8 kilograms per hectare (0, 3.6 and 7.1 pounds per acre). Treatments were made monthly to creeping bentgrass receiving uniform nitrogen at 49 kilograms per hectare (43.8 pounds per acre) per month. Creeping bentgrass quality improved with increasing levels of phosphorus each year of the study. Creeping bentgrass fertilized at 5 or 11 kilograms per hectare (4.5 or 9.8 pounds per acre) phosphorus per month was similar in quality.

Potassium had no effect on visual quality of creeping bentgrass. Inherent cool summer night temperatures associated with the local climate and minimal disease pressure may have prevented beneficial potassium effects from surfacing. Perhaps creeping bentgrass quality response following potassium application would be more readily observed in a climate having more adverse environmental conditions.

This study demonstrated the importance of phosphorus in maintaining creeping bentgrass quality on a sand-based medium.

Rubber Gloves: Who Needs Them?

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> Taken from Pest News Alert, Univ. of Kentucky, No. 489, March 1989

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