



*(Left top) Efficient use of water remains the key issue "Out West"!*

*(Left bottom) New equipment for deep cultivation is on the market in the Southeast and across the country.*

*(Below) Black layer was a topic of controversy across the country.*



## Mid-Continent Region

by JAMES F. MOORE, Director

**I**T HAS BEEN another fruitful and educational year in the 10 states that make up the Mid-Continent Region. It has been a year of controversy with the infamous "black plague," a year of progress with new equipment and products rapidly making their way onto the courses, and a year of promise thanks to the researchers whose hard work guarantees the future of the game of golf as well as the turfgrass industry.

I am happy to report that superintendents in this region seem to have a good

handle on the black layer. Few claim to have all the answers to the cause of the problem, but they do realize that the solution is action. They are managing water more closely and are cranking up the aerifiers at the first sign of anaerobic conditions.

Remember when there were no more than two or three "household names" when it came to aerifiers, mowers, and chemicals? Superintendents have demanded better ways to do things, and

the producers have come through. We can now choose from a wide assortment of equipment and an expanding list of highly advanced chemicals. At least three new aerifiers and four new lightweight fairway mowers have shown up on courses in the Mid-Continent Region this year.

The most difficult but at the same time rewarding part of traveling the Mid-Continent Region is the diversity of challenges facing turf managers. Out

West, water continues to be more precious than gasoline — and nearly as expensive. The folks in the South want to give their memberships bentgrass greens throughout the year, if only someone could figure out how to sustain bent under 40,000 rounds a year in a climate that at times favors on Kudzu and skeeters. Almost everyone in the central and eastern parts of the region agrees zoysiagrass fairways are great, but surely there is an easier,

cheaper, and above all, quicker way of establishment. The Northerners and high-altitude bunch are having to make some tough decisions between fairway grasses too. Ryegrass, bluegrass, bentgrass, and even *Poa annua* all have their advantages. Unfortunately, they also each have their drawbacks, which invariably become all too obvious the week before the Member-Guest.

Truly, 1987 has been an exciting year.



## Western Region

by LARRY W. GILHULY, Director

**W**ATER, or the lack of it, continues to be the primary issue in the Southwestern United States, where there is an opposing increase in the use of effluent water for golf course irrigation. With the exception of some minor problems, the use of effluent has been successful thus far in Southern California and Arizona, with reduced nitrogen applications a positive by-product of golf courses being watered in this manner.

On a subject related with water, black layer became a common problem in the western United States. In every case where black layer was seen on golf courses, it was always in the lower areas on greens, where excess water, lack of drainage, and soil or organic layers combined to produce an anaerobic, black area that made the turf susceptible to other problems. Dr. Roy Goss's article in the July/August, 1987, issue of THE GREEN SECTION RECORD appears to be right on the mark in describing all of the black layer problems seen in the West.

One of the more intriguing problems seen in Southern California this past year was the number of golf courses that displayed classic phosphorus deficiencies. For years it has been known that a lack of phosphorus can weaken *Poa annua* and benefit bentgrass growth. However, it appears that much of the phosphorus on greens in Southern California has not been available at all, to the detriment

of all plants. Several greens turned purple and seemed to be under attack from diseases that could not be identified. However, superintendents who began applying phosphorus in a foliar form (monoammonium phosphate) had dramatic results in a very short time. I believe the trend of no phosphorus fertilization will be replaced with applications in spring and fall to allow the *Poa annua* to survive both environmental and pathogen attacks.

Several other situations were common throughout the cool- and warm-season areas in the Western United States, including:

1. Reduced nitrogen rates, decreased herbicide applications due to environmental concerns, and good weather have caused a notable increase in the amount of clover.

2. Moss invasions are becoming more common as memberships ask for green speeds that are simply not attainable on a regular basis. A regular membership Stimpmeter speed of 7.5 to 8.5 feet should provide plenty of speed and less moss.

3. During visits to courses in Oregon and Idaho, bermudagrass was thriving in minimally irrigated rough areas and droughty areas around greens. With new grasses slated for release soon from the USGA/GCSAA Turfgrass Research Program, I believe we will see more advancements in this area to allow less water to be used on today's golf courses.

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Robert Sommers, Managing Editor