## Dr. Beard Outlines '10 Vital Trends'

Dr. James Beard recently outlined 10 trends he felt vital during a presentation at the Michigan Turfgrass Conference, just a few miles from Michigan State University where he taught from 1961 to 1975.

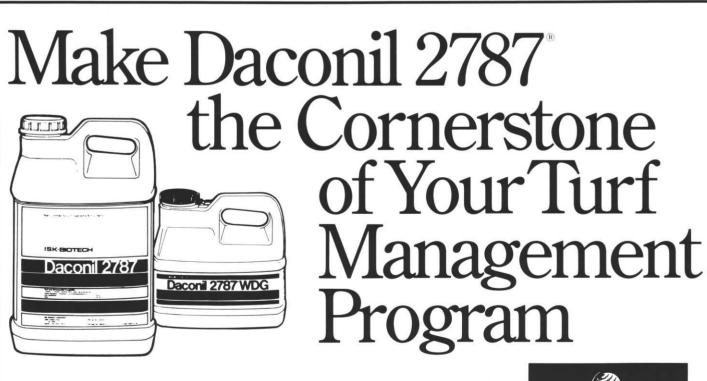
"Some of the things I say will probably be wrong, but the challenge is to think of the future," said Beard, who was visiting from Texas A&M University.

- 1. More computer use in turfgrass management. "You're going to come in and turn that computer on and you're going to get a series of readouts, that there is a high probability of this disease in the next four days, or the prime time for winter overseeding is coming up, or a period of root stress is approaching," he notes. Computers, networked to libraries, will provide an immediate source of information for turfgrass managers.
- 2. Reduced pesticide use. More corrective and fewer preventive applications. More pesticide applications will be target-specific.
- 3. More emphasis on pest management approaches. The key to solid turfgrass management? "Understanding and manipulating the environment in favor of the growth of the turfgrass plant, and minimizing the chances of stress," says Beard.
- 4. Water conservation. Expect less water available for turfgrass use, higher water costs, increased use of effluent water, government control or allocation, says Beard, noting that the industry has had a hard time convincing the public that turfgrass is actually vital in preserving and pro-

tecting groundwater.

- 5. More uses of controlled-release fertilizer products. The presence of nitrates in groundwater will continue to be an issue. He asks for improvements in slow-release fertilizer carriers.
- 6. Less energy waste. Expect steadily rising costs for petroleum-based products and internal combustion machinery, causing turfgrass managers to plan their programs with energy savings in mind.
- 7. Improved stress tolerance in turfgrass cultivars. Plant breeders will accelerate their efforts to develop grasses that provide quality turf while requiring less energy, water, fertilizer and pesticides.
- 8. Innovative rootzones for turfgrass getting lots of traffic. Beard refers to a mesh element system in place in the upper six inches of turfgrass rootzone at the 14-acre Santa Anita (Calif.) Race Track. He said it significantly reduced divoting and improved turf at the track. Systems based on similar principles might be developed for golf tees/greens and sports fields.
- 10. More education needed to keep abreast of technological advances. Turfgrass managers will have to be well-versed in turfgrass, and also in cost control, system organizations, personnel management, budgeting, etc.

The heart of his message? "Efficiency through better management of water use, pesticide use, energy use, equipment use, labor use and fertilizer use," says Beard.



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