

# 'Salt-Affected Turf Sites' an eye-opener

By MARK LESLIE

With more and more golf courses operating on former landfill sites and using often salt-laden wastewater for irrigation, superintendents are facing complex and difficult challenges in keeping their turfgrass growing and healthy.

With this in mind, Drs. Bob Carrow and Ronnie Duncan of the University of Georgia's Crop and Soil Sciences Department have co-authored *Salt-Affected Turfgrass Sites—Assessment and Management*.

Dealing with such topics as ion imbalance, sulfate compounds and glycopytes, this is not bedtime reading for the layperson in the family. Yet, Carrow and Duncan do make their information understandable. Good thing, since 10 percent of the world's land surface contains salt-affected soil, and one-third to one-half of all irrigated land is influenced by salinity.

Salt-affected soils are found on every continent, the two scientists say, with the highest concentrations in Australia, North and Central Asia, and South America. Some 25 to 35 percent of Australia's land mass is influenced by salts, and in Western Australia that area increased by 680 percent between 1982 and 1996.

Salt problems are exacerbated in areas where people are under water-conservation rules, because they are often unable to leach salt through the soil and must use wastewater. Primary salt-induced problems — water deficits, soil permeability, ion toxicities and ion imbalances — are only worsened by such secondary results as that:

- saline soils require more frequent and careful irrigation;
- sodic soils (those with high exchangeable sodium) often make it difficult to schedule irrigation due to reduced water infiltration and percolation;
- sodic soils normally require much more intensive cultivation programs to maintain macropores of oxygen diffusion, water movement and root channels;
- fertilization programs are more complex due to ion imbalances, toxicities, and the necessity of additional chemical amendments to displace excess salinity;
- traffic-control programs must be carefully developed due to enhanced potential for wear injury under salt stresses;
- salt-affected soils limit the choices for turfgrass cultivars to those with sufficient salinity tolerance to persist; and
- since drought and high-temperature tolerances are reduced

by salinity stress, measures to prevent or minimize these potential injuries are often necessary.

The cases are surprisingly wide-ranging, from Bermudagrass damaged by periodic flooding with brackish water and a high water table where the ground water is saline, to salt

accumulation in the soil's "B horizon" caused by occasional heavy rains in an arid region.

Carrow and Duncan explain

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*Salt damage to Bermudagrass from periodic flooding with brackish water and a high-water table where the ground water is saline.*



## GOLF COURSE NEWS

### IPM Handbook for Golf Courses

By Drs. Gail L. Schumann, Patricia J. Vittum, Monica L. Elliott, Patricia P. Cobb

Designed for both novice and experienced superintendents, this field manual will help you understand and implement successful integrated pest-management techniques. Each chapter begins with a solid introduction, followed by step-by-step lists to aid in the field application of IPM principles to real-world situations. More than 150 photographs — 32 in color — along with informative tables and drawings illustrate the key points. Actual examples and success stories are presented by superintendents from across the United States to help you plan or improve your Integrated Pest Management program. Chapters cover Site Assessment, Scouting and Monitoring, Developing Technologies for Pest Management, Getting Started and Regional IPM Portraits as well as cultural, biological and chemical control strategies, and managing insects, diseases, nematodes and weeds.

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By Edward Pira

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By A.W. Tillinghast

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By Geoff Shackelford

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By Tom Doak

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### Color Atlas of Turfgrass Diseases on Golf Courses

By Dr. Toshikazu Tani, Contributing Author, Dr. James B. Beard

The *Color Atlas of Turfgrass Diseases on Golf Courses* presents more than 540 high-quality color photographs of all the major turfgrass

diseases that occur on both warm- and cool-season grasses. It is international in scope. This book will likely become the standard color-guide to disease diagnosis and pathogen identification for golf course superintendents and turfgrass practitioners. No other book contains as many color photographs of this detail and quality. Helpful maps are included to assist in disease identification by providing geographical locations where each disease/pathogen is likely to occur. A unique feature of this easy-to-use field guide is that it also provides color photos of step-by-step guidance on diagnostic techniques for laboratory analysis which can be used by practitioners.

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By Dr. Keith Karnok

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### Destructive Turfgrass Insects: Biology, Diagnosis and Control

By Dr. Daniel A. Potter, University of Kentucky

Written in clear, everyday language, *Destructive Turfgrass Insects* covers the biology, diagnosis and control of virtually all of the insects and mites that attack warm- and cool-season turfgrasses. No other source provides as many practical and comprehensive management guidelines for use on golf courses, lawns and sports fields. Learn how to use insecticides effectively, while safeguarding human and environmental health. Examine the strengths and limitations of biological and chemical control techniques and the use of new biorational products. Dozens of sampling and diagnostic techniques are also discussed. This book has the answers on how to control white grubs, mole crickets, fire ants, ticks, other turfgrass-damaging pests such as moles and more. It features 235 high-quality color photographs and more than 200 illustrations.

**\$65.00, 400 pages, hardcover.**



# A different perspective: Pro-active job interviewing

## A job-hunter's perspective

By RAYMOND G. DAVIES

As superintendents, we have developed specific knowledge and skills that allow us to produce great golf course turf. Interviewing skills are not required to grow great turf, but having the right job is. To land a job in which your career can thrive, you must excel in the interview process.

A key to successful interviewing is to

take initiative in — pro-actively manage — the interaction between yourself as the candidate and the employer as interviewer.

As the applicant for a superintendent's job, you must achieve four objectives in an interview to glean

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Ray Davies

## An employer's perspective

By TOM ISAAK

I heartily endorse the principles of pro-active job interviewing. The job candidate who understands the concept put forth by Raymond Davies, in the companion article, has a powerful career-building too — if he or she can implement the concept.

Ray and I work together. When we were interviewing each other we applied

considerable collaborative effort to shaping a job that would marry the company's needs with his skills and career goals. Now, as colleagues for two years, we continue this problem-solving relationship.

It was a pro-active interview that both launched and formed the basis for this highly productive relationship.

My observations are intended to affirm Ray's concept, while providing an employer's perspective.

### COMMUNICATE COMPETENCE

It is almost as hard to communicate competence as it is to examine it. The pro-active interview strategy solves the problem for both parties. Competence — and its essential component, confidence — are communicated best by those who know where they stand. Understanding how a job fits into the career growth you have planned says you know where you stand. If career growth can be defined as acquiring knowledge and skills and applying them with satisfactory results, rather than simply where one works and for how much, the foundation is laid for a dialogue about what constitutes a successful employee-employer relationship. Think through the elements of career growth that will lead you to satisfaction. This self-knowledge about the subject of the interview — your career — is essential to communicating competence. It "centers" you for an interview and is the basis for knowing if the job is good for you. It also gives you the perspective as well as the strength to recognize if it isn't a good match. Note that this is quite different than playing "hard to get," which will come across to the interviewer as arrogance or manipulation.

### QUESTION THE QUESTIONER

A good interviewer seeks to understand how you think. The pro-active candidate shows this, not tells about it, by question-

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Tom Isaak is president, CourseCo., Inc and Raymond Davies, a certified golf course superintendent, is the company's regional superintendent.



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## Salt & turf

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how to assess salt-influenced problems and then act to remedy them. They specify particulars about tests for total salinity, sodium (or permeability) hazard, specific ion toxicity to grasses and other landscape plants, and nutrient content and pH.

Then they recommend what lime-, sulfur-, gypsum- and phosphogypsum-based amendments to use; and when, how much and with what equipment to apply them.

Using several case studies, the scientists finalize this educational experience with real-life situations to help readers relate to their own circumstances.

Published by Ann Arbor Press, \$54.95, 185 pages, hardcover. Available through *Golf Course News* Bookshelf.