

BRIEFS



IGM NAMES WEST COAST MANAGER

PALM DESERT, Calif. — International Golf Maintenance, Inc. (IGM) has named Z. Gordon Davidson regional manager of the West Coast office here. Davidson is a 1976 business administration graduate of California Baptist University and holds a masters of divinity degree from Biola University in La Mirada, Calif. He is a member of the Golf Course Superintendents Association of America, National Golf Course Owners Association, National Recreation and Park Administration and U.S. Golf Association. "Z's experience in the contractual maintenance business will be a great asset to our team," said Scott Zakany, executive vice president of IGM.

HEART OF AMERICA SETS CONFERENCE

KANSAS CITY, Mo.—The Heart of America Golf Course Superintendents Association (HAGCSA) announced its 1998 Golf & Turf Conference will be held Nov. 4-5 at Harrah's North Kansas City Hotel & Conference Center here. This is the third annual event, featuring seminars and exhibits. The conference will feature a full day of programming for certified golf course superintendents, with tested Continuing Education Units, and a full-day U.S. Golf Association program for superintendents, club managers and other decision-makers from golf courses throughout the Midwest. Classes will be offered on advanced turf, landscaping and customer service for golf course employees. More information is available from Olivia Golden, HAGCSA, P.O. Box 419264, Kansas City, Mo. 64141-6264; e-mail ogolden@westernassn.com.

British scientists work on grass that stays green

By TREVOR LEDGER

ABERYSTWYTH, Wales — Working from a strain of meadow fescue that stays green during drought and remains lush throughout all seasons, the Institute of Grassland and Environmental Research (IGER) is working to develop a perennial ryegrass with the same attributes.

IGER hopes to have seed available on the market around the turn of the century, according to Dr. Brian Clifford, coordinator of amenity and sports turf.

"All plant varieties have to go

through trials and stand up against other conventional varieties for other characteristics," Clifford said. "They have to get on a national list and meet certain DUS (Distinctness, Uniformity and Stability) trial requirements. Once you have that, you can market it in the UK."

IGER scientists said they discovered the so-called "staygreen" gene which causes yellowing in plants when the leaves are destined to die. By using DNA fingerprinting techniques to map



genes, scientists are able to "silence" the gene responsible for yellowing.

Plants turn yellow when placed under stress like heat, drought, salinity, pests, diseases, time and pollution. While the gene

does not stop those stresses, it does remove the symptom — yellowing.

Official trials at the Sports Turf Research Institute are under way and it is hoped that approval of new grass strains incorporating the "staygreen"

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Nancy Pierce at Crowbush Cove, where the ocean is always "a presence."

The Maritimes are home for Crowbush's Pierce

By PETER BLAIS

PRINCE EDWARD ISLAND, Canada — There were a lot of nervous PEI course owners when head superintendent Nancy Pierce's facility, Crowbush Cove, opened in 1993.

"They were afraid Crowbush would take away all their business," Pierce recalled of the north shore course that has received numerous awards and in late July hosted the Export "A" Skins Game featuring Mark O'Meara, Fred Couples, John Daly and Canadian Mike Weir. "But golf rounds are up on the whole island since we opened. You can't get a tee time anywhere, unless you call ahead."

"The Skins game was just amazing. We had 500 people on the course on the busiest day of last year's Canadian Amateur Championship. We had more than 5,000 a day for this year's Skins game. And it was televised in more than 50 countries. The Tourist Board has gotten hundreds of calls about golf on PEI since then."

Equally gratifying to Pierce were the many calls and faxes she received following the Skins game from fellow Canadian superintendents congratulating her on the course conditions and how well that reflected on Canadian golf.

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SUPER FOCUS

COMMENTARY

Use soil's natural storage capacity during grow-in

By RICK KROEGER

Technology has improved mowing equipment. Ingenuity has created aeration equipment, which technology improved further. Science has developed biological pesticides. And fertilizers have become available in so many forms, it's difficult to keep up with all the new trade names.

Yet superintendents seem reluctant to abandon the old standby: "15-15-15 before planting." Because our knowledge of soil and water science has also improved, I feel it's time to re-evaluate this approach.

As the variety of readily available fertilizers has multiplied, superintendents have latched onto products which they understand and trust through experience — that is to say, through consistently safe usage.

Favorite products become favorites through predictability. Most superintendents have similar stories to tell about the time they tried "hype product X" and scrambled to recover from some form of negative fallout.

The wiser superintendents have returned to predictable, economical and environmentally responsible elemental fertilizers. They apply these to the ultimate storage system — the soil — for continuous availability, much as we store food in our pantries or refrigerators. Establishing and maintaining the nutritional balance of soil reserves allows the plant to energize its own genetic defenses against heat, drought, insects and disease. It also fortifies the plant to healthfully regenerate itself in response to close mowing and associ-

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Rick Kroeger, CGCS, is president of Kroeger Worldwide, a golf course management and consulting firm based in Rockford, Ill. Kroeger is the consulting agronomist to GolfPlan, a design firm based in Santa Rosa, Calif.

Workbench perfected at Wuskowhan club

By TERRY BUCHEN

WEST OLIVE, Mich. — One of the advantages of building a new turf-care center is the ability to incorporate new concepts along with time-tested winning ideas. Designing the equipment mechanic's workbench is one way to have some fun. And that's exactly what superintendent



SHOP TALK

Superintendent Ronald A. Brandon and his crew built this workbench complex.

Use soil's natural storage

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ated golf course wear.

Most elements stored in the soil have a long shelf life — elements like iron, zinc, copper, molybdenum and phosphorous. Some of the intermediate shelf-life elements are calcium, magnesium and potassium. The most famous short-shelf-life element is nitrogen, although calcium, magnesium and potassium may also have less staying power under certain poor soil or water situations.

Fertilizer selection is simplified if we learn to understand storage and manage it in concert with the elemental changes that occur due to the impact of rainfall and irrigation water content. This learning curve begins with analysis of the physical soil and chemical testing of both the soil and water. (It's important to remember that laboratories simply analyze soil and water; it takes a skilled agronomist specializing in soil and water chemistry and turf nutrition to interpret this data.)

This storage process is further established by replacing the soil's elemental shortfalls and reducing excesses. This provides balanced nutritional availability, much as we balance fruits, vegetables, meats, etc. in our own diet. The process is maintained by monitoring and replenishing on an annual basis, at the very least.

When these steps are accomplished, most soils will provide the plant all its nutritional needs for many months at a time and require only minimal replenishment of potassium and nitrogen. We have been successful in using this approach to grow in and open new golf courses three to four months following seeding or sprigging. When the soil is nutritionally in balance, nitrogen and potassium — applied through the sprinkler system via a fertilizer injection system at the pumphouse — may be all the fertilizer needed for several months.

A fast grow-in reduces the chance of erosion and the resulting costs associated with repair. It's also important to note that most golf course openings are delayed by reseeding and resodding operations. A quicker grow-in reduces costs, which improve cash flow, as the course is opened sooner.

In my activities with Golfplan, we have been successful in using this approach to quickly grow in and open new courses. One of these, Chin Ju Country Club in the hot and humid climate of southern Korea, included cool-season grasses grown in during the monsoon season when disease activity and erosion might

normally be considered perilous. Because the soil was nutritionally in balance, and a slow-release nitrogen source had been applied before seeding, nitrogen and potassium applied through the sprinkler system was all the fertilizer needed until dense turf covered the surface.

Heavy fertilizer application

equipment, which would have rutted the perfectly shaped features, was not needed. Light-rate, preventive fungicide applications were made to counteract the combination of fast growth, high temperature and high humidity. These spray applications were made every 10 days using sprayers with high-flotation tires.

Another Golfplan design, Bandai National Park Resort Golf Club in Japan (at 1,500 feet of

elevation), badly needed a fast grow-in due to the combined issues of a short growing season and monsoons which occur for a solid month from the middle of June through the middle of July. Using these soil-storage techniques, grow-in at Bandai went off without a hitch.

We've made believers out of grow-in superintendents. They consistently remark on the additional attention we pay to soil

chemistry. It's the difference between a potentially nightmarish grow-in and one which was rather uneventful.

In managing soil and water chemistry, certain complications may occur based upon the size of the soil storage capacity, or CEC (cation exchange capacity), soil and air temperatures, rain and irrigation chemistry, and total rainfall, among others. In

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TORO GREENSMaster™

Brits study 'green' gene

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gene will be given within three years.

Clifford explained that in the 1960s, a man named Joe Lewis noticed that a meadow fescue in his field remained green during the autumn and winter and this became, and remained, a curio. About 10 years ago, IGER ame-

nity plant breeder Danny Thorogood picked up on it and pointed out how useful it could be.

The research and development of "staygreen" emerged from there.

Many questions need to be addressed: for example, such as if a grass does not yellow how can its health be monitored?

"It's a question of learning how to manage these new grasses," said Clifford. "You can tell the difference between healthy grass and the senescing grass when you get close up. It is a different green and will be identifiable to the trained eye."

Clifford said that, for now, IGER is concentrating exclusively on perennial ryegrass. Since rye is a cousin of meadow fescue, transferring the gene conventionally

was relatively easy, he said.

"Kentucky bluegrass would be another good target for it," Clifford said. "We do plan to use it in other grass species. Bentgrass is an obvious target, as are Bermudagrass and zoysia. But the breeding program is that much more difficult because those are another genera."

That breeding would be made easier by using genetic engineering techniques, he said. A possible

added bonus to IGER's research is found in the biological process. Plants regenerate themselves by using old, discarded tissue and cells to build new growth. In effect, it recycles itself using second-hand building blocks of life.

However, by removing the plant's ability to "kill itself off," it will have to look elsewhere for new building blocks — i.e. the plant's environment. Therefore, the growth could well be slowed down, which holds potentially beneficial implications for mowing frequency and other methods.

IGER has maintained strong links with the nearby University of Wales in Aberystwyth and is a government-funded institution. This program is funded by British commercial seed companies, Clifford said.

Soil capacity

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some cases minimal replacement of calcium and magnesium may also be required.

In any case, new courses which have not accomplished this more thorough type of pre-plant fertilizer application will not grow in as quickly as they could.

I have been called in to consult on a number of golf courses where grow-in superintendents followed the very desirable USGA Method for Putting Construction, only to find the CEC too low to adequately store nutrients. The solutions available are, in all cases, quite expensive from an annual operations perspective or that of amending the soil vertically with deep coring/drilling and subsequent filling of the holes with a high CEC mixture. In no case is this more desirable than building greens right the first time.

Existing courses that don't maintain balance in the soil reserve can offer high-quality playing conditions — but only at a steep financial premium. Courses where management is satisfied with average to above-average playing conditions tend to have good years and bad years, based mainly upon the inconsistencies of annual weather.

It's best to establish sound nutrient storage during grow-in. But existing courses can also reap significant improvements in reliability through this simple adjustment.

The old standby 15-15-15 application is an unnecessary expense when state-of-the-art soil and water science is used. By understanding the soil's natural storage capacity, fertilization is simplified and economized. Savvy superintendents can then take the money typically spent on the old shotgun approach and use it to open their course earlier — or, in the case of an existing facility, make the turf better all summer long.

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