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# The Big Picture

THE NUMBERS THAT SHAPE YOUR BUSINESS



A recent survey by Bayer Environmental Science of superintendents indicates that more than 90 percent of respondents

believe the Internet and related online services have a moderate to high impact on the golf course industry. However, most use the Internet to read news and obtain product and technical information, not yet to purchase products, the survey indicated. Here's what superintendents surf for:

Research product/technical information	<b>62%</b>
Read news	<b>37%</b>
Review job openings	<b>31%</b>
Make purchases, general and work-related	<b>21%</b>
Get event updates	<b>21%</b>
Just curious	<b>17%</b>
Correspond through forums	<b>3%</b>
Don't use it	<b>1%</b>

ILLUSTRATION BY DAN BEEDY

## Golf Rounds Played

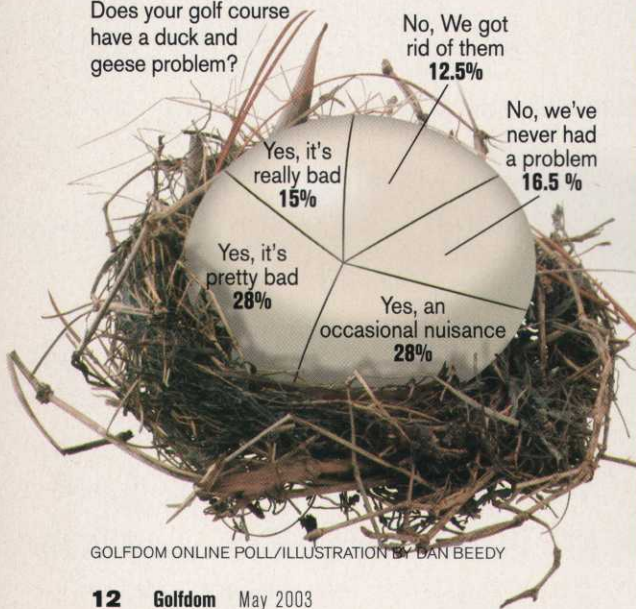
The percentages below represent the difference in number of rounds played in the month of January compared to the number of rounds played in January 2002.

REGION	JANUARY	Y.T.D.
<b>New England</b> ME, VT, NH, MA, RI, CT	-86.2%	-86.2%
<b>Middle Atlantic</b> NY, PA, NJ	-83.2%	-83.2%
<b>East North Central</b> MI, OH, IN, IL, WI	-76.5%	-76.5%
<b>West North Central</b> ND, MN, SD, NE, KS, IA, MO	-39.6%	-39.6%
<b>South Atlantic</b> WV, VA, DE, MD, NC, SC, GA, FL	-6%	-6%
<b>Florida</b>	1.9%	1.9%
<b>East South Central</b> KY, TN, AL, MS	-27.2%	-27.2%
<b>West South Central</b> OK, AR, LA, TX	-9.1%	-9.1%
<b>Texas</b>	-7%	-7%
<b>Mountain</b> MT, ID, WY, NV, UT, CO, AZ, NM	30.3%	30.3%
<b>Pacific</b> WA, OR, AK, HI, CA	14.5%	14.5%
<b>California</b>	7.5%	7.5%
<b>TOTAL UNITED STATES</b>	1.6%	1.6%

GOLF DATATECH

## Duck, Duck, Goose

Does your golf course have a duck and geese problem?



GOLFDOM ONLINE POLL/ILLUSTRATION BY DAN BEEDY



DIGITAL STOCK

## Golf By the Numbers

	Daily Fee	Municipal	Private	Total
9 holes	3,064	755	854	4,673
18 holes	5,267	1,400	3,040	9,707
27 holes	449	137	200	786
36 holes	249	80	179	508
45 holes or more	84	16	53	153
<b>Total</b>	<b>9,113</b>	<b>2,388</b>	<b>4,326</b>	<b>15,827</b>

NATIONAL GOLF FOUNDATION





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# Off The Fringe

NEWS WITH A HOOK

## Business briefs

### Course revenues remain flat in 2002

It was another rough year for the golf industry in 2002, with rounds down and revenues remaining flat, according to the latest National Golf Foundation (NGF) study.

The findings, compiled in January from 2,191 golf facilities nationwide, indicated that rounds dropped 3 percent compared to 2001, and total revenues remained essentially flat, increasing only .9 percent.

"The decrease in rounds was expected," says NGF President Joe Beditz. "Lack of growth in the number of golfers continues to inhibit any material growth in rounds played or facility revenues, making facility owners and operators vulnerable to increased competition and the poor economy."

The NGF study defines rounds revenue as the sum of green fees, guest fees, golf car rentals, annual dues and trail fees.

### USGA honors former agronomist

James M. Latham of Deltona, Fla., who was actively involved on the USGA Turfgrass and Environmental Research Committee from 1995-2002, received the organization's USGA's Piper and Oakley Award for his "meritorious service to the USGA Green Section and the game of golf by a volunteer."

Latham worked as USGA Green Section agronomist from 1956 through 1960, and from 1984 to 1994. In between, he worked for 25 years with the Milwaukee Sewerage Commission, helping to promote one of the nation's first businesses designed to recycle waste products into landscape fertilizers.

### Talkin' turf disease at Bayer event

Forty university researchers and plant pathologists recently attended the 10th annual Turfgrass Disease Seminar, sponsored by

*Briefs continue on page 16*

## Guarding Over Grubs

WEATHER PATTERNS LAST YEAR  
WILL AFFECT GRUB  
POPULATIONS THIS YEAR

By Larry Aylward, Editor

**G**rubs can be predictable. They often show up at the same location over and over. But they can also be as unpredictable from year to year as the Dow Jones Industrial Average is from day to day.

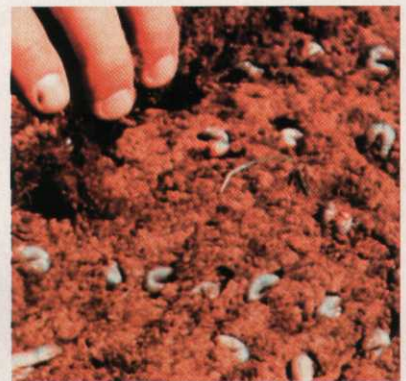
"It's funny how every year is different with grubs," says Chuck Silcox, Bayer Environmental Science's product development manager for insecticides in the turf and ornamental markets. "Every year [superintendents] deal with something new [from grubs]."

Grubs are high on superintendents' pest priority list.

"Grub control is probably second to crabgrass control in the minds of superintendents," says John Price, senior technical sales representative in the mid-American region for Dow AgroSciences.

Superintendents in the Midwest, East and parts of the South know the common turfgrass grubs as Japanese beetles, Asiatic garden beetles, European chafers, Green June beetles and Oriental beetles.

How pestering can the beetles be? Last year, Japanese beetle grubs appeared unexpectedly on several golf



**Don't be in a hurry to treat for grubs without doing an adequate site survey.**

courses in the late summer because of the drought. The female beetles delayed laying their eggs until they found moist turf to lay them, and the beetles found that moist turf on golf courses. "They laid their eggs as late as early September, and all of the sudden superintendents were dealing with a grub infestation they didn't typically have that time of year," Silcox says.

The drought, which affected about half the country last year, will have an impact on grub activity on golf courses throughout the nation this year, experts agree.

The wild card in all of this is how much superintendents irrigated their courses during the drought. If superintendents didn't irrigate their courses' fairways during the drought and let them go dormant, they might not have a problem with severe outbreaks. But superintendents who did irrigate may experience infestations of grubs on their courses. "Irrigated turf is



sometimes like a magnet for grubs," Silcox says.

Even if a superintendent is only irrigating a course's fairways to keep them a little moist during a water restriction, the course could have grub problems, says Pat Vittum, a professor of entomology at the University of Massachusetts.

"The turf doesn't have to be super moist," she says. "[Irrigation] only has to be at a level where the turf isn't wilting."

The past winter's fierce cold in the Midwest and East will have an impact on grub activity, experts say. Dave Ross, technical manager for Syngenta Professional Products, expects grub populations to be lower because of the harsh winter. "Adult emergence in the early spring will probably be a little reduced in some of those colder areas," he says.

But Silcox notes that heavy snowfall, which many parts of the Midwest and East also experienced, could improve

## Waiting for Meridian

What's up with Meridian, the new insecticide from Syngenta Professional Products? It was reported three years ago that Meridian was "nearing release."

But like a lot of pesticides, Meridian has been hung up in the EPA registration process in light of the Food Quality and Protection Act. Meridian contains the active ingredient thiamethoxam that will control many chewing and sucking insects, including grubs, at low use rates.

Among the holdups in the registration process is that EPA asked Syngenta to provide more data about the application rates of Meridian, according to Coby Long, Syngenta's insecticide brand manager.

"It has been disappointing for us, but we realize as a manufacturer that we're committed to working with EPA to ensure public safety," Long said.

If everything goes according to schedule within the review process, expect to see Meridian for sale late next year or in early 2005, according to Long.

— Larry Aylward, Editor

the chance of grubs' winter survival. "It's a lot more insulating under a foot of snow than it would be if it was 0 degrees F and there was no snow," he says.

For that reason, certified superintendent Joe Baidy, director of golf courses and grounds for Turning Stone Casino Resort in Verona, N.Y., won't be surprised if there's increased grub activity this spring and summer.

"We had snow but the ground did

not freeze under the snow, which could definitely support grub activity," says Baidy, a veteran superintendent of 37 years.

Even when the ground freezes, certified superintendent Tom Athy is impressed how grubs manage to stay alive.

"They are resilient little pests," says Athy, director of grounds for Omaha

*Continued on page 16*

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## Business briefs

### *Briefs continued from page 14*

the Bayer Environmental Science/Chipco Professional Products Group in Fort Lauderdale, Fla., recently to talk about basal rot anthracnose management, bacterial wilt of *Poa annua*, silicon and gray leaf spot in St. Augustinegrass and other diseases. Just as important, they talked about designing fungicide programs for tees, greens and fairways to control the diseases.

"The meeting is designed as a noncommercial summit, providing researchers with an unbiased forum to discuss their research with colleagues," said Eric Kalasz, brand manager of fungicides for Bayer Environmental Science. "This seminar generates a lot of discussion and ideas each year."

### **Ex-Nicklaus executives face charges**

Two former executives of Paragon Construction International, an obsolete construction company owned by Jack Nicklaus' Golden Bear Golf, are facing federal securities fraud charges, according to a report. Christopher Curbello and John R. Boyd face up to 35 years in prison and a \$3.25 million fine if convicted of falsifying records to hide losses.

### **Textron celebrates feat**

Textron was handing out the wrist watches March 12 to proud employees of its Jacobsen's Charlotte manufacturing facility. The employees received the 2003 Textron Award of Merit in recognition of their achieving 1 million hours of operation without a lost-time injury. "This achievement is truly significant when one considers the core nature of our business — building and assembling precision, high-speed turf cutting and aeration equipment, and spare parts," said Jason Kravik, director of environmental health & safety for Jacobsen.

The Charlotte plant manufactures precision turf-care equipment for the golf course and sports-field markets. Jacobsen also announced that the Environmental Management System of the Charlotte Manufacturing Facility had achieved ISO 14001 certification. The ISO 14001 standard — often referred to as the "green" standard — defines the specific requirements for a comprehensive Environmental Management System.

### *Continued from page 15*

(Neb.) CC. "When there's cold temperatures and the frost goes deep into the soil, they seem to be mobile enough to move below it."

Joe DiPaola, golf market manager for Syngenta, notes that soil temperatures are much cooler this spring because of the cold winter, and grub development is likely to be delayed. DiPaola advises superintendents to monitor soil temperatures and be on the lookout for outbreaks. (Syngenta provides a convenient online resource — [www.greencastonline.com](http://www.greencastonline.com) — for doing this, he notes.)

The first grubs of the spring could be European chafers, which are active in Northeast states including Massachusetts and Rhode Island as well as near the shores of the Great Lakes.

"One distinction with the European chafer is that it becomes active earlier in the spring and stays more active in fall," Silcox says. "It's typically the first grub doing damage in the spring."

Vittum says she's concerned about increased populations of European chafers this year because of last year's drought and the fact that European chafers handle the cold better than other grubs.

"European chafers favor dry conditions, and we certainly had that last year [in the Northeast]," Vittum says. "They're also more cold-tolerant, so I'm sure they're untouched by the winter we just had."

Silcox says the European chafer and the Oriental beetle have both expanded their ranges. Silcox adds that he's surprised how fast the Oriental beetle has expanded its range, noting it has been discovered as far south as Atlanta.

DiPaola stresses that superintendents need to discover what type of grubs are intruding on their golf courses. The type will influence what kind of insecticides they apply, as well as application rates.

If you had grubs last year, you'll probably have them this year, Dow's

Price adds. He advises superintendents to monitor grubs' flights. When they fly, which could be around now (early May), apply an insecticide within a week, Price says.

Speaking of insecticides, make sure to apply them appropriately, Athy suggests.

"Grubs are one of the easiest pests to control," he says. "But if you don't get them, they can be a serious problem. If you screw up your application, they'll eat your course alive, and you won't know it until it's too late."

The key is to ensure that the insecticide you're using ends up in the soil, not in the thatch layer. It can't kill the grubs if it doesn't reach the soil where they're feeding.

"Start watering it in as soon as it's on the plant," Athy says. "Then it doesn't have the opportunity to dry on the leaves."

Superintendents also have to know how long to irrigate after the application. "Some think a 15- or 20-minute set will get it down through the thatch, but it might take longer than that," Athy adds.

Another key in dealing with grubs: Don't be in a hurry to treat for them without doing an adequate site survey. Eileen Buss, an assistant professor with the University of Florida's entomology and nematology department, advises superintendents to step back and establish the need to treat. That means to establish how many grubs are in the turf and to assess the level of damage to the turf. A healthy stand of turf can survive as many as 20 chafers per square foot. For green June beetles, three to five per square foot merits a spray.

Buss says the newest turfgrass pests in Florida are sugar cane grubs. "They are mowing through St. Augustinegrass," she says, adding that finding two to three sugar cane grubs per square foot would merit a treatment.

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*Curt Harler, managing editor of Golfdom's TurfGrass Trends, contributed to this story.*

How will you manage

# *Summer Decline*

this year?

Control disease and improve



TURF QUALITY  
all year long.

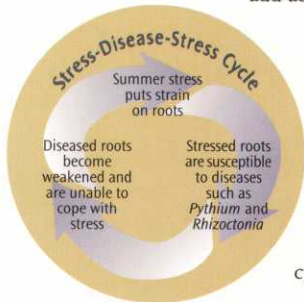


Turf quality is a common term. It encompasses color, density, playability, vigor, uniformity and more. Because so many factors are involved, excellent turf quality is hard to define. But turf quality is of the utmost importance to golfers. While they may not know what it takes to keep turf in top shape, golfers definitely notice when turf isn't up to par. The bottom line: You are in charge of producing optimal turf quality.

### Summer Decline—What Is It?

Summer decline is the deterioration of turf quality during the warm-weather season caused by the interaction of diseases and stress. The major diseases that affect bentgrass are *Pythium* and *Rhizoctonia*, while anthracnose plays a role on *Poa annua*. Since there are just as many stresses contributing to turf decline as there are indicators of turf quality, maintaining good turf quality is a full-time job.

**Turf stress.** As temperature and humidity increase, turf becomes more stressed. In addition to environmental stresses, other factors include management-induced stresses such as increased traffic and mowing heights, improper fertility, aerification, irrigation, and the use of DNA herbicides and some DMI fungicides. Root-zone problems such as poor drainage, compaction and nutrient imbalance add additional pressure.



**Disease pressure.** As turf becomes stressed, the turf plant is more susceptible to diseases that further weaken it. This makes the plant more vulnerable to stress, which leads to more disease as the stress-disease-stress cycle continues.

### Summer Decline — Where Does It Occur?

Originally, it was thought that summer decline only occurred in the transition zone. But summer decline has been witnessed throughout the United States, causing poor turf quality on both bentgrass and *Poa annua*. In the South, turf stress also has been witnessed on bermudagrass. Summer decline can occur in any region of the country when turf undergoes a period of stress and disease pressure.

**Finding answers.** For years, superintendents have coped with summer decline on their turf, often unsuccessfully. While fungicides are an important tool, controlling disease is not the complete answer to the summer decline problem. In response to summer decline questions posed by superintendents, researchers at North Carolina State University conducted extensive studies to determine some answers.

In the early 1990s, Dr. L.T. Lucas, North Carolina State University extension turf pathologist, concluded turf quality decline was due to disease and stress interaction.



Summer decline on a bentgrass green

### Chipco® Signature™ Provides Relief From Summer Decline

After recognizing how summer decline develops, Lucas began looking for ways to cope with the complex. He found that a combination of Chipco® Aliette™ and Fore® fungicides resulted in vastly improved turf quality, above and beyond the disease control being offered by each product alone. Researchers found that an ingredient in Fore combined with Aliette produced a synergistic effect that allowed the turf to flourish under summer decline conditions. This resulted in turf quality that was superior to that provided by any other fungicide combination. The formula was patented, and today the product is called Chipco Signature.

#### Improved turf quality.

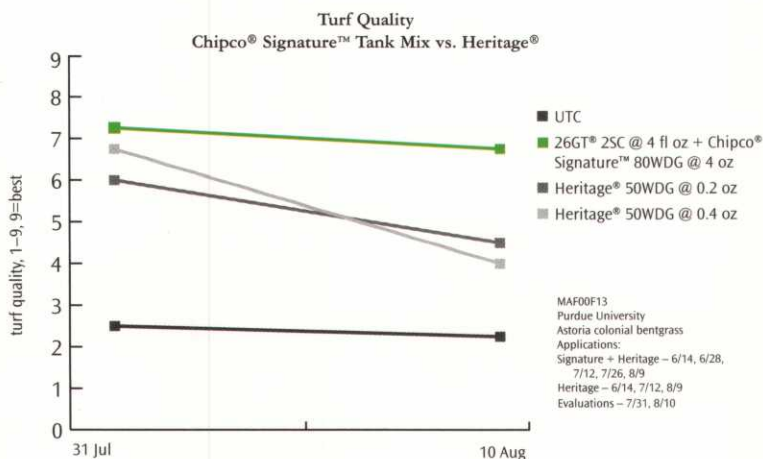
Besides controlling *Pythium*, anthracnose and other diseases associated with summer decline, a program that includes early applications of Chipco Signature will improve turf color, vigor and root development, providing unmatched improvement in turf quality. No other product improves turf quality under summer decline conditions as dramatically as Chipco Signature.

**Tank-mix compatible.** Chipco Signature allows for a wide range of tank-mix partners, helping you to easily increase your disease-control spectrum. Summer diseases, including dollar spot and brown patch, can be controlled while providing the foundation of a summer decline management program with Chipco Signature.





**Field performance.** Turf quality is rated by visual assessment during research trials. On a scale from one to nine (nine being the best), a rating lower than seven is usually considered unacceptable by researcher standards. Studies show that Chipco Signature, alone or tank mixed, produced consistently higher turf-quality ratings than competing products.



The plot on the left was treated with a tank mix of Chipco Signature + Daconil. Notice the lack of disease plus the exceptional color and vigor of the turf compared to the plot on the right, which was treated with Heritage alone.

### Summer Decline Program Recommendations

For optimum control, multiple applications of Chipco Signature, tank mixed with other fungicides, must be started prior to the appearance of disease and/or conditions that increase turf stress. As a general rule, a target time to start Chipco Signature tank-mix applications is four to six weeks before the onset of stress. Continue treating every 14 days until summer decline is no longer a factor. However, any disease management program should be customized for each individual situation, depending on the area of the country and the seasonal climate.

### Contact Us Today

For more information on how Chipco Signature can boost your summer decline program, contact your Bayer Environmental Science representative or call 800-331-2867. Or visit us online at [www.BayerProCentral.com](http://www.BayerProCentral.com).

## Chipco Signature Tank Mixes Relieve Illinois Superintendent's Summer Stress



"For summer decline, I don't think there is a better management

tool than Chipco Signature," says Luke Strojny, CGCS and superintendent of Poplar Creek Golf Course in Hoffman Estates, Ill.

Strojny learned about Signature firsthand from Dr. L.T. Lucas of North Carolina State University, a leading researcher on summer decline. "In 1995, I heard Dr. Lucas speak," Strojny says. "He discussed his studies on Aliette plus Fore [a mix that later became Chipco Signature]. That got me thinking and prompted me to try that tank mix."

Strojny appreciates how Chipco Signature can be tank mixed with a fungicide of his choice, giving him greater options for customizing his summer stress program.

"I've always used Daconil," says Strojny. "When I found out Signature was compatible with it, I knew I wanted to look at tank-mix options between the two products."

So how is turf quality at Poplar Creek?

"I've seen improvements in root and turf quality in terms of greener, denser, healthier turf," says Strojny, "and I haven't been hit with stressful disease."



# BAYER ENVIRONMENTAL SCIENCE PRODUCTS FOR YEAR-ROUND CONTROL

Maintaining turf quality is a year-round job. Cool temperatures, snow cover and high humidity are factors that lead to disease in the cooler months. In the spring and fall, leaf spot and patch diseases are prevalent. In the winter, gray and pink snow mold are common.

Bayer Environmental Science products can help control diseases throughout the year. See the chart for a list of diseases by season and the Bayer Environmental Science products that control them.

## FOUR SEASONS OF TURF QUALITY

### PROBLEM

### BAYER ENVIRONMENTAL SCIENCE SOLUTION

#### SUMMER

Summer Decline ( <i>Pythium</i> spp., Anthracnose and <i>Rhizoctonia</i> spp.)	Chipco® Signature™ + 26GT® or Chipco® Signature™ + Compass™
Dollar Spot	26GT or Bayleton®
Brown Patch	26GT or ProStar® or Bayleton or Compass
<i>Pythium</i> Diseases (Damping off, Blight, Crown and Root Rot)	Chipco Signature or Banol®
Fairy Ring	ProStar
Fusarium Blight ( <i>Fusarium</i> spp.)	26GT or Bayleton
Necrotic Ring Spot ( <i>Leptosphaeria korrae</i> )	26GT*
Anthracnose	Chipco Signature or Compass or Bayleton
Bentgrass Deadspot	Chipco Signature + Daconil® or Fore® Rainshield™
Summer Patch	Bayleton or Compass
Take-all Patch	Bayleton

#### FALL

Leaf Spot ( <i>Drechslera</i> spp.)	26GT or Compass
Corticium Red Thread ( <i>Laetisaria fuciformis</i> )	26GT, ProStar or Compass or Bayleton
Pink Patch ( <i>Limonomyces roseipellis</i> )	ProStar or Compass
Large Patch* ( <i>Rhizoctonia</i> spp.)	26GT or Bayleton
Yellow Tuft	Chipco Signature

#### WINTER

Gray Snow Mold ( <i>Typhula</i> spp.)	Chipco Signature + 26GT or ProStar
Pink Snow Mold ( <i>Microdochium nivale</i> )	Chipco Signature + 26GT or Compass

#### SPRING

Leaf Spot ( <i>Drechslera</i> spp.)	26GT or Compass
Corticium Red Thread ( <i>Laetisaria fuciformis</i> )	26GT, ProStar or Compass or Bayleton
Yellow Tuft	Chipco Signature
Anthracnose (preventive)	Chipco Signature

\* Not registered for use in California.



Bayer Environmental Science / 95 Chestnut Ridge Road / Montvale, NJ 07645 / 800-331-2867 / [www.BayerProCentral.com](http://www.BayerProCentral.com)

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