GCSAA AFFILIATE

Turf Times

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The newsletter from the Northern Michigan Turf Managers Association

Growing Season Winding Down

With the days getting shorter and the leaves turning color, it is a real good indicator that the growing season is coming to an end.

If your summer has been anything like mine, you look back and wonder where the days have gone.

President Jeffrey Holmes

It has been a good year for golf rounds, and a good year for growing turf. As I have talked with different Superintendents this year, they have commented on how golf rounds have been up and that the turf problems have been fairly mild.

With the end of the growing season upon us, it also indicates that the end of the year is here for our board of directors. It is time for election and re-election of board members to serve on the Northern Mich. Turf Managers board.

We have had a committee working on new applicants to run for election. If we did miss someone who is interested in running for the board, you can still be submitted as a candidate at the October annual Meeting.

If you are going to take the time and committment to run for the board, we would like you to be committed to your responsibilities once you are elected. Be professional and help lead your association. Carry out the job tasks that you are assigned to and make it to all meetings.

Please attend the October Meeting even if you are not running for the Board. The candidates need your support to get elected. It will also show the candidates that we have a strong association that cares about what is happening.

I'm looking forward to seeing everyone at Huron Breeze for the annual meeting.

EPA May Extend UST Insurance Deadline

The EPA has proposed a 14-month extension for Catagory IV underground storage tank owners/operators to prove financial responsibility. The proposal, which was published in the Aug. 14 *Federal Register,* would push back the federal deadline to Dec. 31, 1992 for most golf operations with USTs. However, states will have the option of keeping the current Oct. 26, 1991 deadline, or extending it to match federal requirements.

EPA is now accepting comments on the proposal, which was drafted under pressure from congressional representatives concerned about the financial stability of small businesses located in states without EPA-approved trust funds. Currently, 22 states have received EPA approval for UST trust funds; 12 or more have submitted trust fund programs for approval.

Golf operations should be aware that, regardless of the financial assurance deadline, they are already responsible for cleanup costs, third-party liability and associated legal fees resulting from a leak or spill. GCSAA sponsors a low cost UST insurance program that can assure your club or course will have the resources to survive such an incident. For details, call GCSAA's communications department at (913) 832-4470.

Credit: GCSAA Briefing

Keeping a Weather Eye

Professional weather forecasters arrive at their predictions with the assistance of such instruments as barometers, hygrometers and thermometers, each of which measures some aspect of the ever-changing atmosphere: air pressure, humidity and temperature, respectively. The wilderness is filled with indicators every bit as accurate, if not so nicely calibrated. Knowing how to read them is one of the skills of outdoorsmanship.

Masses of cold and warm air move across the earth from west to east at a rate of about 600 miles per day, propelled into and around pools and eddies of high and low pressure. Air blows clockwise away from the center of a high pressure area, where it escapes upward, cooling as it rises and leaving behind the moisture it contains. Thus a drop in air pressure (a falling barometer) generally means the arrival of a pocket of humid air, clouds, and often rain or snow, particularly when the low pressure area is at the front of an air mass.

Migrating geese maintain their altitude by sensing air pressure; the more the pressure, the higher they fly. Low flying geese means a falling barometer, an omen of bad weather.

There are many signs of an approaching low pressure area; smoke hovers and turns downward; birds tend to roost; swallows and bats swoop low; ground odors rise from ditches and marshes; clouds form at low altitudes; the rising humidity makes hair limp, causes distant objects to appear closer (because the usual evaporation haze is missing), and precludes the formation of morning dew. These signs are all prominent among folklore's favorite foul weather warnings.

Sound travels a mile in about five seconds; light arrives almost instantaneously. To find out how many miles away a thunderstorm is, count the seconds between a lightning flash and the thunderclap that follows it, and divide by five.

Other bits of weather lore are also firmly based in fact. Take, for example, the expression "Red sky at night, sailor's delight. Red sky in the morning, sailors take warning." (The setting sun shines through tomorrow's air, 500 to 600 miles westward; the laws of light refraction are such that if the air is clear and dry, the sky will be red just after sunset. The same laws decree that a red sky just before sunrise means that the air that has passed to the east is clearer and drier than where you are.)

There are three basic cloud types: cirrus (wispy), stratus (layered) and cumulus (puffy). Each is produced by a specific air pattern, and each may presage a particular kind of storm. Learn to read the early stages of these developments. Fluffy white cumulus clouds, for example, are formed by warm updrafts called thermals. They are common on clear days and generally foreshadow more of the same, but they are also the stuff of which thunderstorms are made. When a thermal is intensified by the moist updraft of a low pressure area, the result is a huge billowing thunderhead (cumulonimbus), bringing strong winds, thunder, lightning and a downpour of rain. The telltale step in this pattern is when fair weather cumulus clouds begin to puff upward like the turrets of a castle. Such towering cumulus clouds are not always followed by thunderheads but when they occur in the west or northwest sky, a little darker and lower than other cumulus clouds, the wise camper begins to make preparations for a sudden storm.

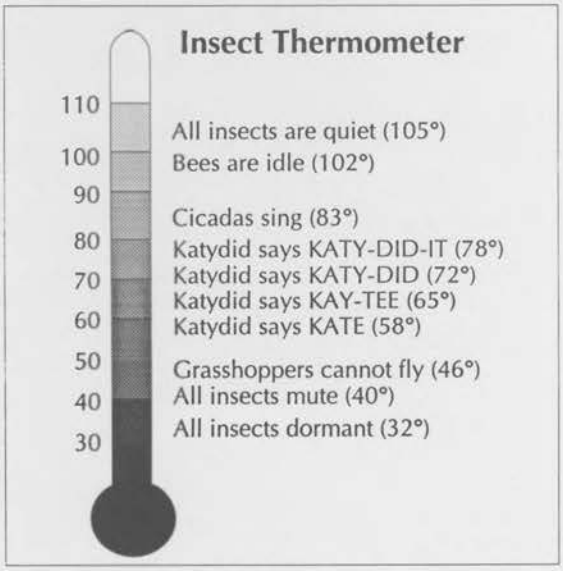
Cirrus clouds form wispy mares' tales before warm air fronts hit. Next come cirrostrattus, the 'mackerel sky', then rain.

Cirrus clouds are made of ice crystals, formed when warm air suddenly meets cold air (the way your breath forms vapor on a cold day). Often they signal nothing more than a high altitude wind pattern, but when they begin to form a thin, icy layer (cirrostratus) - causing the appearance of a halo around the sun or moon - it is probably the first warning of an approaching warm air front, with a long, steady siege of rain or snow.

Cumulus clouds, fed by warm updraft of cold front, develop towering form, warning of approaching thunderstorms or snow.

Learn To Read The Language Of The Clouds

Cold air is heavier than warm, so the front of a cold air mass hugs the ground as it moves eastward, pushing warm air like wood shavings before the blade of a chisel. Cold fronts give little warning; winds may change to easterly or northeasterly, often creating a squall line (a band of high winds and short lived thundershowers) a few minutes before their arrival. Layers of cumulus clouds (cumulostratus) or thunderheads may accompany the front itself. Warm fronts move more slowly and give 10-15 hours warning. Wispy cirrus clouds accumulate and grow steadily lower, and winds often shift to easterly or southeasterly; long, steady rain from low stratus clouds presages and accompanies the front itself. When a cold front overtakes a warm front, the result is called an occluded front; the sky grows dark, and heavy weather, snow or violent winds often result.



To find temperature in Fahrenheit, count a cricket's chirps for 14 seconds and add 40. Other insects indicate readings as shown above.

Credit: The Bull Sheet

Letters to the Editor

You can communicate directly with the NMTMA and your fellow members by writing to:

Turf Times
c/o Mike Morris
PO Box 1575
Frankfort, MI 49635

Share your thoughts and feelings about our organization or the industry in general

Mechanic's Corner

By David Barlow • Mechanic Supervisor - Garland

I have found in my years of experience in the mechanical field that if you follow the three C's, you will go a long way toward a successful career.

The Three C's are complaint, cause and correction.

1. **COMPLAINT:**
   A. Listen to a description of the problem (communicate with the operator before and after repairs).
   B. Take a short "Road Test" to verify the complaint.

2. **CAUSE:**
   A. Perform a careful and systematic evaluation to determine the cause of the failures.
   B. At this point determine the parts needed, and if the unit can be temporarily repaired and put back into service.

3. **CORRECTION:**
   A. Take time to study the repair and do it correctly.
   B. Always "Road Test" or operate the equipment to make sure it works to your satisfaction.
   C. Keep a record of repairs for future reference.

Superintendents respond to New York Attorney General's Report

Editor's Note: Below is GCSAA's response to a report released by the New York Attorney General's office concerning golf courses and pesticide use.

Association members may receive questions concerning this report from media representatives. Please feel free to use any of the statements presented in this news release as responses to these inquiries.

The Golf Course Superintendents Association of America (GCSAA), responding to a report published late last week by the New York State Attorney General's Office, called the report "unsupported by fact, inaccurate and misleading."

The report, "Toxic Fairways: risking groundwater contamination from pesticides on Long Island golf courses," is based on a survey of 52 golf courses on Long Island, N.Y. The report claims that the golf courses surveyed are treated with as much as seven times more pesticides per acre than are used to grow food crops. The report implies that the chemicals could pose a risk to local groundwater supplies.

GCSAA President Stephen G. Cadenelli, CGCS, Stated. "A number of points from the report are unsupported by fact, inaccurate or misleading. The primary thrust of the report seems to be that simply because these materials are applied on golf courses, they will *de facto* enter groundwater. Yet, no scientific evidence is cited in the report to support this notion. In fact, actual monitoring and sampling studies suggest that there is very little movement of materials applied on courses - even in more vulnerable soils than those found on Long Island."

A major independent study completed on Cape Cod, Mass. and other university studies at Cornell and Pennsylvania State University, show that golf course chemicals do not pose a threat to groundwater supplies when properly applied. "Any suggestion that turf chemicals, when professionally and properly applied, will enter groundwater under golf courses in any amount sufficient to pose risks to humans is without foundation in science," Cadenelli said.

Cadenelli continued, "The report and the news release that preceded it refer to the fact that pesticides are applied to courses for 'merely aesthetic' reasons. Plant protectants are used to control diseases, insects and unwanted plants that cause damage to a very valuable piece of property. Golf course superintendents manage golf courses in an environmentally responsible manner to ensure that there are acceptable conditions for golf and to protect the significant investment that golf courses represent."

Golf courses are businesses: they provide thousands of jobs and millions of dollars in property taxes. The value of the land around the golf course is also enhanced, creating a larger volume of tax revenues from homes and businesses located nearby.

Properly maintained turfgrass actually benefits an entire community by preventing erosion, cleansing the air of pollutants, acting as a "heat sink" that cools the atmosphere, maintaining much-needed greenspace in urban settings, providing habitat for thousands of species of birds and wildlife, and filtering pollutants from rain and irrigation water.

More and more golf courses around the country are utilizing effluent (reclaimed wastewater) water for their irrigation purposes. The natural filtration properties of turfgrass allow this wastewater to be disposed of on golf courses and be cleansed before it reaches the groundwater supply.

Cadenelli continued, "Golf course superintendents were putting the principles of integrated pest management into practice long before 'IPM' became a government buzzword."

Integrated pest management, or IPM, is the utilization of turfgrass management strategies that are economical and have the least possible effect on people, property and the environment. Reduced pesticide usage is an important element of any IPM Program.

"Given the expense of chemicals and our own deep concerns about protecting natural resources, why would we use them unnecessarily? Modern emphasis and education is on using pesticides 'curatively' as a doctor would use a specific medicine to cure a specific problem. Ask those who know - extension agents, pesticide regulators, educators - and they will tell you that golf course superintendents are leading the way in implementing IPM practices," said Cadenelli.

Maria Cinque, turf specialist at the Cornell Cooperative extension on Long Island, backed up that statement. "We at the Cornell Cooperative Extension have been teaching IPM practices for the last ten years. Many of these practices are used by golf courses on Long Island," Cinque said. "I believe that the amount of pesticides has definitely been reduced during this period," she continued.

Cadenelli noted that superintendents nationwide are using fewer and fewer chemicals more effectively each year. "It seems ironic that this report is issued at a time when we're using better materials in increasingly small amounts. If there isn't a problem now, I don't see how there could be one in the future," he said.

The report itself stated that: "There is no reason to believe that any water now supplied to Long Island exceeds safe drinking water guidelines for any pesticides."

Pesticide Application and Storage - Key elements in Environmental Forum

The requirements for the application and storage of pesticides will be more stringent in the near future. That's the message that came from a recent environmental forum hosted by the GCSAA.

Arty Williams, chief of the Environmental Protection Agency's (EPA) Field Operations Division, said the requirements for people who apply restricted-use pesticides (RUPS) - especially certified applicators - will be getting tougher.

Continued on next page. . .

Superintendents respond to New York Attorney General's Report

. . .Continued from previous page

The proposed recommendations are based on a 1985 task report on the certification and training of RUP applicators. These recommendations reflect the need to address several are of concern, including groundwater protection, worker protection, endangered species protection, chronic toxicity of RUPS, and waste and container disposal. The federal law that covers pesticide application is the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). FIFRA's Section 3 requires that any pesticide classified by the EPA for restricted use "shall be applied only by or under the direct supervision of a certified applicator," Section 4 gives each state an opportunity to implement its own pesticide applicator program. Virtually every state has its own version of this program.

The new rules will require certified applicators to keep records of site-specific training, as well as to show competency of non-certified applicators who are applying RUPS. In addition, recertification will be required at least every five years for all certified applicators. Some states already have similar regulations. Williams said the final rule should be "on the streets" in 1992.

GCSAA Director Randall P. Zidik, CGCS, said, "A recent survey has shown that over 95 percent of all golf course superintendents have at least one certified applicator on staff. Many courses have more than one. Although these new requirements will be tougher, they shouldn't place more of a demand on the superintendent because many of them already have these record-keeping elements in place."

Dennis Howard of EPA's Environmental Effects and Fate Division next addressed the forum on pesticide storage. Regulations concerning pesticide storage and mixing/loading are still under development, Howard said, and are not expected to be effective until 1993 and 1994, respectively. The storage requirements are not expected to affect the majority of golf course superintendents because they would apply only to facilities that store 11,000 pounds or more of pesticide products.

Rinse pads will likely be required in area where concentrated pesticides are routinely transferred. This regulation would affect golf courses that do most of their mixing in the same location.

"Even though the storage requirements may not affect golf course superintendents, they should provide good standards to those courses who are building or remodeling their pesticide storage facilities," said Zidik.

What They Don't Teach In Even The Best Schools

By Peter McWilliams

Our high school and our college meant well, but they drilled into us huge quantities of information that we promptly forgot. . . and neglected to teach us some of the most fundamental skills for living well. Key things that they left out:

- The purpose of life.
- The importance of forgiveness.
- The need for balance.
- How to figure out what we want.
- The usefulness of mistakes.
- How to love ourselves.

Fortunately, our education doesn't end just because we leave school. Life itself is a classroom, and our teachers are everything that happens to us - both positive and negative.

In addition, each of us has our own Master Teacher - that voice inside us that seems to be making calm, sure comments in the midst of mental chaos. In a sense, it's life that teaches us how to live.

Why Are We Here?

We can't know for sure if there's meaning to life. But it makes great practical sense to at least assume that there is. I believe that life's purpose has three parts:

- **Doing.** Human beings are busy creatures. We do far more than simple survival would require. This suggests that we thrive on doing. All this doing leads to. . .
- **Learning.** The more we do, the more we learn. . .and the more we learn, the more we do. It's a continuing cycle. But it would quickly become tedious without the 3rd element. . .
- **Enjoying.** Some people complain about being on a treadmill. Others pay hundreds of dollars for the privilege of going into a gym and running on one.

Joy can exist no matter what else is going on in your life. There are lessons to be learned even from confusion and pain. . . and learning is enjoyable, even if the events themselves aren't.

The Attitude of Gratitude

The human brain evolved to take familiar things for granted, allowing our ancestors to sit up and take notice when a saber-toothed tiger approached. That means we need to be *consciously* grateful for the good in our lives, or we may not notice it at all.

You choose your attitude at any given moment. *Ask yourself:* Do I focus on the good in my life or on the bad?

We all have plenty of both, and the mind can concentrate on only a narrow spectrum at any one time.

It's a simple formula. If you focus on the good stuff, life is enjoyable. If you focus on the bad, life is miserable.

That doesn't mean we should never feel bad. Pain and loss happen to everyone from time to time, and sometimes feeling bad is precisely the appropriate response to a situation.

But it's more often the little, day-to-day occurrences that make or break our happiness. You can focus on the guy who cut you off in traffic on the way to work this morning. . . or on the one who kept the store open a few minutes late just to accommodate you.

Think about all the little miracles in life. Oxygen, for example - we've never been without it.

You Can Have Anything You Want

The Puritan ethic tells us: *It's wrong to want things. Life is nothing but sacrifice and duty, and people who have what they want are wicked.* That belief leads to frustration.

In recent decades, the popular philosophy shifted to *I want it all!* But that philosophy also leads to frustration. If you have it all, you don't have enough time to learn how to use it, much less enjoy it.

The truth: *You can have anything. . . but not everything you want.*

Sure, there are limitations, but not as many as most of us believe. It's just that you may have to give up some things you want less for things you want more.

Don't be ashamed of your desires. It's great to want noble things (world peace, good health for all), but it's okay to want mundane or self-focused things, too - a red sports car, great sex, etc.

Respect the whole range of your aspirations. You can't get what you want unless you know what it is. And you won't figure out what it is unless you're willing to accept it.

Love Your Mistakes

One of the most destructive things we learned in school is that mistakes are bad and should be punished.

If you avoid mistakes, you avoid accomplishing anything.

Without failure there's no experimentation. . . no learning. . . and no growth.

It's by finding out what doesn't work that we learn what does. James Joyce wrote; "Mistakes are the portals of discovery. Makes excellence, not perfection, your goal."

Forgiving is For Giving

Nursing a grievance may make us feel righteous. . . but it doesn't make us feel happy. Forgiving and forgetting makes you available for giving and for getting.

When you forgive someone, you give not only to that person, but to yourself. Instead of focusing on hurt, anger and betrayal, you open yourself up to love, joy and adventure.

When we judge others, we also judge ourselves for being judgemental. Deep down we know that we're inhibiting our happiness.

Say to yourself; *I forgive (name of person) for (perceived offense). I forgive myself for judging (person) for (offense).*

It's simple. Try it.

Life Is a Balancing Act

Another incorrect thing that school taught: *There's always a right answer.* Life is one contradiction after another. . . and most contradictions are valid.

We need to be vigilant to sense when we should rest and when we should act. . . when we should be flexible and when we should stand firm. . . what we should accept and what we should change.

When in doubt, consult your Master Teacher - that quietly confident and sensitive inner voice. Ask: *What would a Master do?* Then do it.

Credit: The Bottom Line

Understanding and Pronouncing Scientific N

Confident Use of Nomenclature Is an Acquired Skill

By Paul C

Golf course superintendents recognize the need to be well-informed on the biology and control of turfgrass diseases. An important part of this success is the ability to communicate with colleagues and specialists about technical subjects such as turfgrass pathology.

Golf course superintendents, like other professionals, are more receptive to learning about technical subjects when they can confidently use some of the terminology.

I can assure you that plant pathologists are not born with the ability to rattle off scientific names of pathogens (disease-causing microorganisms) or active ingredients of fungicides. Like most students, I was a bit intimidated at first by scientific names, and I was impressed with how easily they rolled off the tongues of my professors. However, it is simply an acquired skill, onw that plant pathology students have no choice but to learn.

Origins of Scientific Names.

Scientific names of plants and fungi are based on "botanical Latin," which is a language of sorts that is distinct from the classical Latin being taught in our schools. Botanical Latin is best described as a "modern Romance language" of special technical applications, derived from Rennaissance Latin, with much plundering of Ancient Greek.

Why are scientific names in Latin? Why not English, French or Russian - not some musty old language that nobody speaks anymore?

During the eighteenth century when modern scientific names were first developed, Latin was considered to be a very scholarly language. Scientists often corresponded with one another in Latin rather than in their native languages, and sometimes even spoke to one another in Latin. It was natural for them to use Latin in their scientific work, so a tradition developed for naming all plants and fungi using Latin.

This tradition later became a strict scientific convention at the first international Botanical Congress in Cambridge, England in 1930. At this meeting, scientists agreed that the only names acceptable across all political borders were Latin Binomials. These are Latin-based names in which the name of the genus (group of related species) is followed by the name of the species (an interbreeding population of organisms).

As an example, *Poa pratensis* (Kentucky Bluegrass) is related to *Poa Annua* (Annual Bluegrass), but the two are separate and incapable of interbreeding by normal means. Note that by convention, scientific names are italicized or underlined.

Probably the main benefit of using botanical Latin is that is a politically neutral language, since it is a 'dead' language no longer spoken in any society. If scientists in the United States assigned names in English, national pride would dictate that French scientists use French, Chinese scientists use Mandarin, and so on. By using botanical Latin, Scientists throughout the world can all agree on the name of each organism without cultural bias in assigning scientific names.

Different Functions of Latin Names

Scientific names, particularly genus names, are often amusingly descriptive. The name of the fungal genus *Rhizoctonia* means "root murderer," based on the Greek words "rhiza" (meaning "root") and "Ktonos" (meaning "murder"). The fungal genus *Pythium* is based on the Greek word "pythein," meaning "to cause to rot."

Scientific names often describe an important feature of the organism. For example, "nivale" means "snowy" in Latin, so it should come as no surprise that *Michodrochium nivale* is a fungus that causes snow mold.

The cigar-shaped spores of fungi in the genus *Bipolaris* germinate at both ends ("Bipolar" germination). *Schlerophthora macrospora* is a species of *Schlerophthora* with unusually large spores.

Scientific names sometimes reflect the most common or first-recorded host plant. For example, *Magnaporthe Poae* is commonly found on most species of *Poa,* particularly *Poa pratensis* and *Poa annua.* Although it is a pathogen of creeping bentgrass, *Gleocercospora sorghi* was first identified as a pathogen of sorghum.

Sometimes fungal names are used to honor past scientists. The genus *Puccinia* was named after Thomaso Puccini, an eighteenth century Italian anatomist. The genus name *Gaeumannomyces* means "fungi of Gaumann", a German mycologist from earlier this century.

A frustration one often encounters with scientific names is that they are often changed. Name changes are particularly common in the dynamic field of turfgrass pathology.

Believe me, it is just as frustrating to plant pathologists as it is to golf course superintendents to have to learn a new name fafter having gotten used to the old one. So why change names already accepted by the scientific community?

First, let's look at the reasons for assigning scientific names. One reason is to denote individuality. For example, the name *Pythium aphanidermantum* refers to a single species of fungus, different in microscopic appearance from all others,

However, another reason for assigning names is to reflect genetic relationships, just like our own surnames.

Rhizoctonia solani is closely related to *Rhizoctonia cerealis,* as evidenced by the shared genus name, *Rhizoctonia.*

It makes sense that scientific names should reflect family relationships among fungi. The problem is that we just don't know very much about the family relationships of this strange collection of creatures.

With each passing year, mycologists (scientists who study fungi) learn more and more about fungi and about the features that reveal family relationship. As we learn more about fungi, we often realize we have been using the wrong name for a particular fungus. When this happens, it doesn't make sense to ignore it, although plant pathologists share the frustration of having to learn a new name for an old fungus.

Change of Address, Membership Application info available

Any member with a change of address should immediately contact
Thomas J. Reed at 3733 Apollo Drive, Traverse City, MI 49684.
He should also be contacted if any person would like to apply for membership in NMTMA.

Names of Turfgrass Pathogens and Fungicides

l Based On Knowing Some Fundamental Guidelines.

C. Vincelli

Becoming Familiar With Scientific Names

While golf course superintendents do not need to recognize the scientific names of all known plant pathogens, there is value in being able to recognize and pronounce the names of important pathogens of turfgrasses, indeed, most superintendents know the names and correct pronunciation of several pathogens. However, some scientific names may be unfamiliar.

In addition to scientific names of fungal pathogens, this presentation provides pronunciations for fungicidal active ingredients. Learning to recognize names of active ingredients in formulated fungicidal products provides several benefits. These include improving a superintendent's ability to select the right fungicide for a particular disease and allowing cost-comparisons among products having the same ingredients.

Having confidence in how to pronounce these names improves a superintendent's ability to communicate and ask questions about active ingredients.

The common names of fungicidal active ingredients often are an abbreviated form of the full chemical name of the active ingredient. For example, "thiophanate-methyl" is an abbreviated name for "dimethyl, 4,4-ophenylenebis[33-thioallophanate]." Clearly, the common name serves as a much more manageable name for an active ingredient than a formal chemical name.

Included with this presentation (page 10) are tables that list common turfgrass pathogens and fungicidal active ingredients, along with a generally accepted pronunciation of each, using an informal system of symbolizing pronunciation. The only instructions for using this system are: 1) capitalized syllables receive the stress or accent; and 2) the letter 'y' should be pronounced as in 'sky'. Hopefully, all other pronunciations are intuitive.

Acknowledgement

The comments of Joseph L. Peterson, Rutgers University, and Peter J. Landschoot, Pennsylvania State University, were most helpful in preparing this article and are gratefully acknowledged

Credit: Golf Course Management

Pronunciation of Scientific Names of Common Turfgrass Pathogens

Disease	Pathogen(s)	Pronunciation
anthracnose	Colletotrichum graminicola	kah-leh-TA-trik-um grah-min-NIK-ok-la
brown patch	Rhizoctonia solani	ry-zok-TOW-nee-us so-LAY-ny
copper spot	Gloeocercospora sorghi	glee-oh-ser-KAH-spor-uh SORE-gy
dollar spot	Lanzia sp. Moellerodiscus sp. (=Sclerotinia homeocarpa)	LAN-zee-us mo-ler-oh-DIS-kus skler-oh-TIN-ee-us ho-mee-o-KAR-pah
Gray leaf spot	Pyricularia grisea	py-rih-ku-LARE-ee-uh GRIS-ee-uh
leaf spot & melting out	Bipolaris spp. Drechlera spp. (=Helminthosporiium spp.)	by-po-LAR-is DREK-sler-uh hel-min-tho-SPOR-ee-um
necrotic ring spot	Leptosphaeria korrae	lep-tow-SFEER-ee-uh KOR-ree
powdery mildew	Erysiphe graminis	er-ree-SY-fee GRAM-in-is
Pythium blight	Pythium aphanidermatum	PITH-ee-um ah-FAN-ih-der-MAY-turn
red thread & pink patch	Laetisaria sp. Limonomyces sp. (=Corticium fuciforme)	lay-tih-SARE-ee-uh lym-oh-no-MY-seez kor-TIS-ee-un few-sih-FOR-mee
rust	Puccinia sp. URomyces sp.	puk-SIN-ee-uh yes-ROM-mih-seez
smut	Ustilago striiformis Urocystis agropyri	yew-stil-AL-go stry-ih-FOR-mis yes-ro-SIS-tis ag-ro-Py-ry
snow mold, gray (=Typhula blight)	Typhula incarnata	TIF-yew-lay in-kar-NAY-tah
snow mold, pink (=Fusarium patch)	Microdochium navale (=Fusarium nivale)	my-kro-DO-kee-um nee-VAH-lee few-SAR-ee-um Nee-VAH-lee
southern blight	Sclerotium rolfsii	skler-OH-shum ROLF-see-eye
spring dead spot	Leptosphaeria korrae	lep-tow-SFEER-ee-uh KOR-ree
	Gaeumannomyces graminis	goy-man-oh-MY-seez GRAM-in-is
	Ophiosphaerella herpotricha	OH-fee-oh-sfee-RELL-us herr-po-TRIK-uh
summer patch	Magnaporte poae	mag-na-POOR-thee PO-ee
take all patch (=Ophiobolus patch)	Gaeumannomyces graminis	goy-MAN-oh-MY seez GRAM-in-is
yellow patch (=low temperature brown patch	Rhizoctonia cerealis	ry-zok-TOW-nee-uh see-ree-AL-is
yellow tuft (=downy mildew)	Sclerophthora macrospora	skler-AHF-thor-uh mak-ro-SPOR-uh

Pronunciation of Common Fungicidal Active Ingredients

Common Name	Pronunciation	Some Trade Names*
anilazine	ah-NILL-uh-=zeen	Dyrene
benomyl	BEN-oh-mill	Tersan 1991
chloroneb	KLOR-oh-neb	Terraneb SP, Proturf Fungicide V
chlorothalonil	klor-oh-THAL-oh-nill	Daconoil 2787
ethazole	ETH-uh-zol	koban, Terrazole
fenarimol	fen-NARE-eh-mol	Rubigan
fosetyl-Al	fah-sehj-TEEL AL	aliette
iprodione	ip-ro-DY-OWN	Chipco 26019, Proturf Fungicide VI
mancozeb	MAN-ko-zeb	Fore, Dithane DF, Manzate 200, Mancozeb, Penncozeb
metalaxyl	met-uh-LAX-ill	Subdue, Proturf Pythium Control
pentachloronitro-benzene (=PCNB, =quintozene)	PEN-ta-KLOR-oh-NY-tro-BEN-zeen	Terraclor, Turfcide, PCNB
Quintozene (=pentachloronitro-benzene, =PCNB	KWIN=to-zeen	Terraclor, Turfcide, PCNB
propamocarb	pro-PAM-oh-karb	Banol
propiconazole	pro-pee-Kah-nuh-zol	Banner
thiophanate-methyl	thy-oh-FAN-ate METH-ill	Cleary 336-F, Fungo50, Topsin-M, Protruf systemic fungicide
thiram	THY-ram	Spotrete
triadimefon	try-uh-DY-mef-on	Bayleton, Protruf Fungicide VII
vinclozolin	vin-KLO-zo-lin	Touche, Vorian

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ON COURSE WITH NATURE

The Nest Box Project

A handmade bluebird box by Colonel Robertson represents one design alternative. The ventilation slits improve airflow and provide a light source to encourage the bluebird to enter.

by NANCY P. SADLON
Environmental Specialist,
USGA Green Section

Snags and tree cavities once provided many areas of suitable habitat for cavity-nesting birds, but land development and more manicured maintenance trends have reduced these habitat sites. For example, the North American bluebird has experienced a 90% decline in the past 50 years, and habitat loss has been a significant cause of this decline.

Artificial nest boxes can provide alternative nest sites, enticing birds to occupy new habitat areas. Besides cavity-nesting species, birds that usually nest on tree tops, such as osprey, eagles and owls, have been encouraged to use artificial nests with imaginative designs. Waterfowl also can be encouraged to nest on artificial floating islands. Participation in a nest box project is an easy and economical way to increase bird nesting success, help balance loss of natural habitat, and offer an opportunity for superintendents to take an active role in conservation and enhancement of the environment.

Nest box position is one of the most important considerations in attracting birds. Specific nest site characteristics for each species vary, based on instinct, habitat site, and nesting characteristics. It is important to pay attention to the correct habitat (i.e., open fields, wooded area), as well as species preference for nest height above ground, distance to good cover, spacing between boxes, etc.

Bluebirds

Nest boxes are a familiar subject to Colonel W.R. Robertson, active for 20 years with the North American Bluebird Society (NABS), who has encouraged bluebird nesting in Georgia. At 80 years old, Colonel Robertson has constructed over 1,000 nest boxes and still sells a few each year. He continues to monitor 60 boxes on three different Georgia golf courses: Cherokee Country Club, Polo Field Club, and Brookfield West C.C.

Colonel Robertson's first nest boxes were placed in a nearby cemetary, which provided acres of short grass and an ample supply of insects. This effort, however, resulted in failure as many of the boxes were stolen. Recognizing this problem, the golf course was identified as an excellent location for providing both security and bluebird habitat. It took only a short time to learn how to build bluebird boxes and where to place them so they did not interfere with golf and yet were desirable to the bluebirds.

He emphasizes, as does NABS, that bluebirds can help reduce certain insects on a golf course, and thus reduce the volume of chemical usage necessary to control these pests. From considerable experience as both golfer and bluebird expert, he recommends:

- Use an average of 13 to 14 bluebird houses per 18-hole golf course.
- Place the box to the side or back of tees, out of the golfer's way. (Use of nest boxes as 150-yard markers has not been successful for Colonel Robertson, as they get hit by golf balls, annoying both golfer and bird.
- Mount on a metal pole, one inch in diamater. Trees represent natural passageways for predators, allowing raccoons, opossums, etc. to reach the nest.
- Locate boxes no closer than 100 yards apart; 200 yards is better. Closer placement violates feeding territories, causing birds to fight.
- Choose an open area not shaded completely by trees.
- Use 3/4" weather-resistant wood and paint the exterior a neutral color that simulates bark.

Provide ventilation, drainage, and a predator guard to the nesting box. Ventilation improves temerature and airflow, as well as providing a light source. Light is important to encourage birds to enter the box. The bluebird box should be in place by the end of March, but it's never too late to get started. Many species look for future nest sites during migration. Most of all, be patient. It takes approximately two years before your nest boxes will attract a noticeable population.

Don't forget about the nest boxes once they have been contructed and mounted. Monitoring the boxes remains an important aspect of the project. Careful observation of nest box activities allows you to determine and correct problems with predators, parasites, or competitors.

For More Information Contact:

- Audubon Cooperative Sanctuary Program, Hollyhock Hollow Sanctuary, Routee 2, Box 131, Selkirk, NY 12158 (518/767-9051).
- North American Bluebird Society, P.O. Box 6295, Silver Springs, MD 20916-6295 (301/384-0744).

Credit: USGA Green Section Record

Wildflower Sod Excites Gardeners

Wildflower sod is a new product that is bringing excitement to the home gardening landscape because it provides an instant, natural landscape. The sod is affordable, weed free, and as easy to install as grass sod. Grown and sold by King Ranch in Belle Glade, Florida, wildfolower sod consists of dense, 5 foot square mats of perennial wildflower plants that are at least three months old and have well developed root systems. The roots quickly take hold on soil that has been prepared like a typical garden.

Some of the perennial wildflowers in the sod begin to bloom after six weeks. Most begin blooming in the spring of the second year. Many favorites are included, such as Black-Eyed Susan, Purple Cornflower, Dame's Rocket, Gaillardia, Johnny Jump-Up, Shasta Daisy, Rockcress and Wallflower.

Applewood Seed Company, a Colorado firm known for pioneering the usage of wildflowers, developed and patented the prcess whach is marketed under the brand name Wildflower Carpet®. The flowers are suited to climates throughout the United States and Canada, with the exception of Southern Florida and Southern Texas.

Similar to grass sod, Wildflower Carpet® requires consistent moisture for three to four weeks after installation. Weeding is usually unnecessary because the dense layer of wildflower plants forms a barrier that is difficult to penetrate. In the fall, the wildflowers may be mowed to a height of six inches. Over a period of time, the wildflowers best suited to your area will predominate.

For more information contact King Ranch, P.O. Box 1210, Belle Glade, Florida 33430, (407) 996-7257

Looking for a "Fast Food" Version of the USGA Spec Green

by James T. Snow
National Director, USGA Green Section

IT'S COME to this: After listening to golf course architects, builders, superintendents, amd others complain endlessly about USGA specifications for green construction, and watching them modify the specs a hundred different ways to meet their own desires and beliefs, I've decided that what these people must really want is a "fast food" version of the specs!

What constitutes my definition of "fast food" specs, you ask? It's simple. Green construction according to the "fast food" method must be all of the following:

- EASY
- FAST
- CHEAP
- FOOLPROOF

Unfortunately, building greens is not the same as flipping burgers. If you look long enough and set your taste standards low enough, it's possible to find restaurants that serve food that meets all four performance characteristics. If anyone tells you he can build greens that meet all four standards, though, my advice would be to look elsewhere.

It's not hard to find greens built with the first three characteristics in mind - EASY, FAST, and CHEAP. They're the ones that often fail and must be rebuilt, or else cost many times their original expense in terms of extra maintenance costs, poor-quality turf, aggravation, and unhappy golfers.

The fourth characteristic - FOOLPROOF - is the standard the smart money goes with. It means building a green according to the method most likely to succeed, a method that ensures good drainage, resistance to compaction, consistently good turf conditions, and, with judicious maintenance, decades of good performance. It means a method of construction based upon good scientific principles and years of proven field experience; in other words, the USGA recommended method of green consdtruction.

Why wouldn't everyone build FOOLPROOF greens? Some critics say that USGA greens are too difficult, time consuming, and costly to build. But are these criticisms justified? Let's take a look, comparing USGA specs to other methods of green construction.

EASY - USGA greens are fully described in a 24-page booklet and a 25-minute videotape. Laboratory personnel and Green Section agronomists are available to answer questions and provide other assistance. Sure, it takes some planning and coordination to build USGA greens, and it takes more steps than the alternative fly-by-the-seat-of-your-pants method. But which method is actually easier? With USGA greens, all you have to do is follow the directions. One point in favor of the USGA specs.

FAST - It's true, building a USGA green is not the same as deciding to get in your bulldozer, pushing up some "native soil," planting some grass seed, and calling it a green. It requires seeking out the best materials, allowing time for laboratory testing, mixing the components carefully, and following through with all the details to ensure success. One point in favor of the critics, but nothing that some planning couldn't change.

CHEAP - Okay, okay, the best materials sometimes cost more (but often not), and it could cost a few hundred dollars for laboratory testing and a few thousand dollars more for the time needed to put down the intermediate coarse sand layer. And let's really go first class and hire a quality-control person for $40,000 on a $500,000 (or more) green construction project. The extra cost for doing it the right way to ensure long-term success is usually less than 10% of the toal. Another point in favor of the specs.

FOOLPROOF - Admittedly, there is little that is foolproof in the world, but USGA greens are by far the safest bet when it comes to green construction. For all of the criticism, no one has come forth with a scientifically based, time-tested method that's better, or even comparable.

During the past year, we've heard from every imaginable corner of the game about how the USGA ought to change its specs to make them easier, faster, and cheaper. Not surprisingly, most recommendations best served an individual's needs, rather than the needs of golf courses for top-quality greens. Rest assured, however, that the USGA is not going to put its name on construction methods designed primarily to make green construction cheap, without including the foolproof. If we ever endorse "fast food" green construction techniques, it only will be after extensive scientific investigation and extended field testing, and after the fat and cholesterol have been removed, too.

Credit: USGA Green Section

Putting on the Edge of Disaster

By Jerry Tarde

When old Bill Fownes wanted to check the green speed at Oakmont, he would walk out to the second hole and carefull drop a ball on the back of the putting surface. If it didn't roll down the slope, off the front of the green and into the fairway, he would tell the crews to cut and roll the green again.

At least that is according to Oakmont lore. For most of this century, Oakmont has set the standard against which all other top clubs measure their green speeds. Now comes evidence from architect Pete Dye that green speed in the old days may be wildly exaggerated.

Dye has had motion pictures of the 1962 U.S. Open at Oakmont studied by mathematical experts. Analyzing the time lapse of putts rolling across the greens, they have concluded that Oakmont's speeds back then were "about 8 on the Stimpmeter," which is considered relatively slow today.

If true, Dye's discovery is important because it might curb the chase for faster greens, golf's costly equivalant to the arms race. "The USGA is trying to raise $10 million to find hardier turf," says Dye, "All they've got to raise is the mowers, 1/16 of an inch.."

But golfers persist in the mistaken belief that faster is better. And, just as mistakenly, club members argue that their greens were faster back in the '50s and '60s. Most agronomists agree that this is not possible, and USGA Green Section National Director, Jim Snow, cites four innovations that have greatly added speed in recent times:

- It's only been in the last 15 years that clubs cut greens seven days a week; they used to be cut every other day, a big change.
- Cutting greens at 3/16ths was considered very close and 1/4th of an inch was common until the 1970's; the introduction of thinner bedknives (against which the rotary blades of mowers cut) allowed greens to be scalped below 1/8th of an inch.
- Clubs used to top-dress greens once or twice a year; now they do it lightly every three weeks.
- And until the 1970's, we didn't have verticutters and groomers, new machinery that takes the excess top growth off the leaves of grass

But the real culprit is a yard-long metal rod known as the Stimpmeter, which was developed to quantify green speed. When it was introduced in the mid-'70s, the USGA surveyed more than 1,500 greens in 36 states and found that the average roll was 6 feet 6 inches on the Stimpmeter. "It's crept up over the years until the average is closer to 8 today, and 9 feels slow to some people," says Snow.

The result has been higher expenses for maintenance of weaker turf that is more susceptible to disease. Several years ago in the midwest, dozens of country clubs noticed that their bentgrass greens were dying of bacteria known as C15 Decline, while the greens at neighboring daily fee and municipal courses were unaffected. Turf-types began calling it "Rich Man's Disease," because it hit only the wealthy courses like Muirfield Village and Butler National, where the greens were cut too low.

"Trying to maintain consistently fast greens means always living on the edge of disaster," says Snow.

Some classic, old courses have now increased their speeds to the point that severely undulating greens are unputtable. Then members argue that the greens have 'settled' over time and need to be rebuilt. Of course, all they need to do is play the greens at the speed they were designed for.

Now some courses are starting to post their green speeds on locker room bulletin boards. This only encourages idiotic competition among clubs for the fastest greens in town and leads macho golfers to demand higher numbers or the superintendent's job.

Longtime turf authority, Al Radko, says good putting begins at 7 feet 6 inches. And for everyday play, it should not get above 9.

The PGA Tour aims to have its greens at around 10 feet, and the U.S. Open shoots for 10 to 11 1/2 feet. But these are once-a-year accasions, with the host club's maintenance program targeted for tournament week.

SPEED KILLS, we've learned. If not your superintendent, your greens.

Credit: Indiana G.C.S.A.

Special Calendar: Turfgrass Environmental Education Program

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December	2-5	Cincinnati	Ohio Turfgrass Foundation Annual Show Contact (614) 292-2601
	2-6	East Lansing	Your Home Turf at MSU Contact Dr. Frank Rossi at (517) 353-0860
	2-6	Hickory Corners	MSU School of Turfgrass Management
	7	NMTMA/MMTMA Christmas Party - Grand Traverse Resort (The Bear) Acme, Outside Traverse City	
January	20-22	Lansing	Michigan Turfgrass Conference Holiday Inn (Formerly the Clarion)
	23	East Lansing	Kellog Center, MTF/MSU Environmental Workshop Think Tanks, Storage Tank Issues in the Turfgrass Industry
February	8-11	Toronto, Canada	CGCS's 43rd Annual Canadian Turfgrass Conference & Show Contact (800) 387-1056
	10-17	New Orleans, LA	GCSAA's 63rd International Conference & Show The Greatest Show On Earth!
	24	Novi	Late Winter Seminar Series
	25	Grayling	Employee Relations
	27	Grand Rapids	Recruitment, Training, Motivation and Retention of Employees

Ohio Golfer wins Senior Amateur crown

FRANKFORT - It wasn't the classic way to win a national championship.

But then, when it comes to match play - one on one - all that matters is who won the most holes.

And on Saturday at Crystal Downs, it was Bill Bosshard of Copley, Ohio.

He had five bogeys and a double bogey in the final match, but still won the 37th U.S. Senior Amateur Championship on his first try.

55-year-old Bosshard defeated 1988 champion Clarence Moore of Winnsboro, S.C., in Saturday's semifinals.

Bosshard then topped Morris Beecroft, 61, of Newport News, VA., who shared medalist honors with Moore, 5-and-4 in the championship match.

Bosshard, who owns a chemical processing company, won the final match with a double bogey on the 435-yard par-4 13th hole. Beecroft putted, putted off the green, chipped, then putted twice more for a triple-bogey seven.

The pair halved the 139-yard par-3 14th hole with birdies.

"The greens here are like the rest of the golf course, it takes patience," said Bosshard, who survived the cut by just one stroke after two rounds of stroke play Monday and Tuesday. "There is no way to force anything. The sickest feeling in golf is to hit a putt then have to go back to your bag for your wedge. That's a heartbreaker."

Beecroft defeated Dick Goerlich of Tampa, FL, 1-up in Saturday morning's other semifinal match.

This golf tournament, put on by the USGA, had 160 players qualifying for the low 64 to compete further. They played qualifying rounds on Monday and Tuesday, in winds gusting to 48 m.p.h., on a strange golf course. Crystal Downs C.C. is rated by Golf Magazine as the best course in Michigan, 10th in the U.S. and 16th in the world. Players are from every state and Canada and, with their fine play, course records have not changed. This course has Mike Morris as the Golf Superintendent and Fred Muller as the PGA Pro. It was built by Alister MacKenzie with the help of U.S. architect Perry Maxwell.