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NORTHERN MICHIGAN TURF MANAGERS ASSOCIATION

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WEDNESDAY, July 8th, 1981
McGuire's Motor Lodge
South Mackinac Trail, Cadillac, Michigan

The above date and location tells where our next meeting of this Association will be held. For thoseof you that are not familiar with the exact location, its on the south side of Cadillac, about one mile south and just off U.S.31. If you are coming from the south, Mackinac Trail is off of M-115 and north about 1½ miles to McGuire's.

This golf complex was started about 1958 with 9 holes. The second 9 holes were added in 1968 and the third 9 holes built in 1979. The first 9 holes have Toronto bentgrass on the greens and Penncross bent on the other holes. Fairways are seeded to bluegrass and very little Poa Annua has invaded their fine stand of bluegrass.

Starting times are required and we suggest that you contact the pro shop at 616/775-9949. The golf professional is Tom Woody. Golf carts are mandatory if you are playing 18 holes however if you play only 9 holes, you may walk without a cart. Plenty of golf carts are available so carts do not have to be reserved. Larry Dodde is the Convention Manager and the phone at his office is 616/775-9947. Harold Birtles is the golf course superintendent and he invites you to play this fine 27 hole layout.

Dinner for this meeting will start at 6:30 P. M. therefore anyone coming for the dinner and meeting, please be there at this appointed time. Those coming for golf should schedule your time so that you can play , have "Happy Hour" and be available for dinner at 6:30 as scheduled. We are most fortunate in having as our speaker for this meeting someone known to everyone, a man who has contributed much to turfgrass in Michigan, a man that has done more research on turfgrass probably than anyone else in Michigan, a fine speaker with always a message worth listening to and as you can guess, none other than Dr. Jim Beard, now of Texas A. & M. University, College Station, Texas. We are fortunate in that he is spending his vacation in our beautiful Michigan vacation land.

As usual, we must know definitely the number that will be there for dinner. Please make an extra effort to return the enclosed postcard immediately. Some of you are very prompt in returning the card telling us you will or will not be with us. Others only contribute to making a success of our meetings, very difficult. This should not be and works a hardship on the host superintendent and his organization. Please be considerate of your peers and get this card back to us immediately. We are most grateful for your support and cooperation.

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August 26th, will be our next meeting at Hidden Valley, Gaylord. If you have a calendar, make a note to be with us. We are hopeful of having a class in CPR and we all need it.

ANTHRACNOSE—REDISCOVERING THE WHEEL

By J.M. Vargas Jr., Associate Professor, Michigan State University

Anthracnose, caused by Colletotrichum graminicola (Ces) Wils., is an important disease on annual bluegrass, fine leaf fescue and perennial ryegrass. Anthracnose was originally described as a disease of annual blue grass (Poa annua L.) in 1954 by J. Drew Smith (3). He demonstrated its pathogenicity and included excellent photo micrographs (pictures taken through a microscope) of the infectious process in the article. Couch (1), in his book on turfgrass diseases, described anthracnose as an important disease on many turfgrasses, although not annual bluegrass. However, in a more recent article he reversed his earlier opinion and now believes C. graminicola is only a saprophyte (2). Vargas and Detweiler (6) and Vargas (4, 5) found severe anthracnose infections associated with the loss of annual bluegrass fairways and greens during the warm summer weather. Collectotrichum graminicola was isolated and subsequent inoculation experiements in the laboratory supported Smith's (3) earlier conclusions that C. graminicola was a pathogen on annual bluegrass and caused the disease called anthracnose. This research was not published per se since the pathogenicity of Colletotrichum on annual bluegrass was demonstrated 20 years before. To publish data showing C. graminicola to be a pathogen of annual would be equivalent to someone publishing an article on how he had rediscovered the wheel in light of Smith's earlier work (3) and the fact that it was described as a disease in Couch's Diseases of Turfgrass.

The significant discovery was not that C. graminicola caused anthracnose on annual bluegrass, but that something other than direct high temperature kill or "wilting" was responsible for annual bluegrass loss during high temperature stress. Anthracnose appeared at the time to be the major factor responsible for the annual bluegrass loss (4, 5, 6, 7, 8). This belief was based on the large amounts of anthracnose (acervuli) present on the diseased plants, inoculation studies with C. graminicola and the fact that the only other pathogenic fungus isolated was Helminthosporium sorokinianum (syn Drechslera sorokinianum), the cause of leaf spot. H. sorokinianum was originally ruled out as a major factor because the benzimidazole systemic fungicides (benomyl, thiophanate-methyl and thiophanate-ethyl), which gave excellent anthracnose control, were reported not to be effective against Helminthosporium disease whereas laboratory bioassays showed the benzimidazole fungicide to be very effective against C. graminicola. It was logically concluded based on these facts that anthracnose was the major cause for the annual bluegrass dying.

Based on subsequent research, three factors are now believed to be responsible for annual bluegrass loss during the warm summer weather where the symptoms are a yellow-bronzing of the turf followed by tan to brown withering and, eventually, death. The term used to describe this disease complex is HAS decline of annual bluegrass — Helminthosporium leaf spot caused by H. sorokinianum, Anthracnose caused by C. graminicola and Senescence or the dying of a plant due to "old age." Research is currently underway to evaluate these factors to determine the role each plays in HAS decline of annual bluegrass during heat stress periods.

The key environmental factor in the development of HAS decline appears to be high nighttime temperature. This is not to say high daytime temperature or high humidity are not predisposing factors, but unless 70°F plus temperature is experienced for 2-3 nights in a row, severe HAS decline epidemics will not occur. The past two seasons (1978-1979) the daytime temperatures were above 85°F many times including several days above 90°F, but HAS decline was not a serious, widespread problem because the warm nighttime temperatures did not occur. HAS decline was only a problem in 1978-79 where no fungicides at all were used, where annual bluegrass herbicide control programs were being used, where phytotoxic fungicides were applied during warm weather, or where poor soil and air drainage were present, but, there has not been a severe HAS decline epidemic since 1977 in the northern areas of the cool season grass regions.

Preventing annual bluegrass loss through the use of fungicides meant a golf course superintendent no longer had to stand by and helplessly watch his annual bluegrass die during the warm summer weather. Nor did he have to feverishly run around syringing or irrigating to prevent his annual bluegrass from "wilting", only to have it die anyway. He could treat his annual bluegrass with a fungicide and have it survive the warm summer weather.

For the scientific community, it meant a re-evaluation of annual bluegrass as a potential desirable turfgrass species and the subsequent research on its fertility requirements, mowing requirements, cultural requirements, disease and insect problems. This has now begun, even if begrudgingly, and even if sometimes only through pressure from golf course superintendents associations for answers on how to maintain bluegrass. This pressure is understandable when you consider the superintendent has been bombarded with annual bluegrass chemical controls for the past 50 years, none of which have been very successful. The reasons include: 1) lack of chemical efficacy, 2) lack of thorough research on these herbicides before they were introduced, and 3) the belief that a chemical is going to selectively remove a "weedy" grass species from an environment it is adapted to and replace the weedy grass with an unadapted "desirable" species without changing the management regime. Such reasoning is ludicrous and has directly contributed to past failures. If annual blue-

grass could be removed selectively and prevented from returning through the use of herbicides what grass is going to replace it? If it is replaced with Kentucky bluegrass maintained at ½ inch mowing height and irrigated frequently to maintain soft fairways, then the question has to be, what will replace the Kentucky bluegrass when it dies if annual bluegrass is prevented from doing so? Creeping bentgrass? Poa trivialis? Or perhaps bare soil? The problem is not the annual bluegrass, but the cultural regime under which the turf is being maintained. Annual bluegrass is simply replacing the Kentucky bluegrass which is not adapted to close mowing and frequent irrigation because it adapted to such a management regime and no chemical is going to change that! The selective herbicide may prevent the annual bluegrass from returning but it will not prevent the Kentucky bluegrass from leaving.

What is wrong with annual bluegrass? Nothing. It is not better or no worse than any other cool season turfgrass species. They all have their strong and weak points. Annual bluegrass is adapted to the ½ inch mowing height and frequent irrigation regimes employed on golf courses where the golfer insists on low-cut soft fairways. It does have its share of disease problems but so do all the other turfgrass species (Table 1). If a healthy annual bluegrass turf is to be maintained, these diseases have to be treated. The same is true of all the other species. If the diseases on annual bluegrass are not controlled, it will die and the voids will be filled in when the annual bluegrass reseeds itself. If disease prevention is not practiced on the other species they will also die and the voids in the turf will be filled in by annual bluegrass. Therein lies the difference. Kentucky bluegrass, creeping bentgrass, and perennial ryegrass only die once. Annual bluegrass dies year after year after year if its disease problems are not treated. The fact that the other turfgrass species died is forgotten because they only died once. The problem did not occur year after year. The fault is never placed on the disease that caused the "desirable" turfgrass species to be lost, the fault is placed on the annual bluegrass which replaced it. Annual bluegrass didn't made the voids, it simply filled them in. The voids occurred from diseases, insects, wear or mismanagement. If annual bluegrass had not filled in these voids some other "weedy" grass or broadleaf weed would have. The reason annual bluegrass persisted was because it was the species most adapted to the cultural regime under which the turf was being maintained.

Cultural regimes of the various turfgrass species can be seen in Table II. You will note a cultural regime for perennial ryegrass is missing. Little research has been done to determine the optimum cultural system for growing perennial ryegrass in spite of the fact that it is widely recommended as a desirable turfgrass species, because of its improved mowability over common perennial ryegrass.

The other failure of annual bluegrass chemical

DEVELOPING YOUR EXECUTIVE ABILITY

Dr. Fred V. Grau, Consulting Agronomist
College Park, Maryland

To improve your executive ability you must first have a burning desire to do better. It will require effort on your part. You will develop leadership. You will be dealing with people. You must do the things that will make people like you. It is essential to learn to understand the other fellow's viewpoint. Be sincere, agreeable, sympathetic. Be a good listener. Have the courage of your convictions. Continue your education by reading widely. Learn to write well and decisively. Polish your speaking ability by speaking at every opportunity. Go to night school if necessary. Give praise and credit where due. Criticize as little as possible. Keep in touch with your fellow men. Practice remembering names - every person likes to be called by name. Make the other fellow feel important. Learn to smile and to laugh. Develop a hobby. Accept responsibility and leave the whining to others. Sharpen your powers of observation. Inspire others to better efforts. Learn to delegate authority. Sharpen your arithmetic to produce clear-cut budgets and reports. Forget about the other guy "getting your job"--make yourself indispensable. Do more than you are paid to do and you'll be paid for more than you do. Let your imagination work freely. You can be as great as you want to be.

From May 1966 "Our Collaborator"

control programs has been the lack of understanding of the turfgrass plant itself. There are two subspecies of annual bluegrass: Poa annua var. annua L. Timm., an annual type, and Poa annua var. reptans (Hauskins) Timm., a perennial type. The annual type is supposed to be a winter annual which germinates in the fall, lives through the winter, produces seed in the spring and then dies. But in the cool season grass regions, seed production is usually followed by a resurgence of vegetative growth, suggesting that the perennial type is dominant. When death does occur, it is usually later in the season during warm weather stress. If it was a true annual or if the annual type was dominant, should not death occur soon after seeding? If it was a true annual, or if the annual type predominated, should annual bluegrass not die every year? Yet, on well-drained, adequately irrigated fairways, severe annual bluegrass loss occurred only in 1975 and 1977 during the past five years in the upper Midwest and Canada. This is even true of areas where no fungicides were applied! If it was a true annual, should not **all** the plants die everywhere every year? The fact is that most of the plants present in a fairway or greens do not die every year. All the annual bluegrass plants are not lost on a fairway or green even in years of severe HAS decline. It is predominately annual bluegrass plants that are growing in stress areas (poor soil or air drainage, slopes, heavily trafficed areas) that most frequently die, suggesting that something other than normal dying of a winter annual is occurring. The exception is where annual bluegrass herbicides, like the arsenicals, have been used, nearly all the annual bluegrass plants in a treated area will be destroyed during heat stress periods.

Wilt

The term wilt is often used to describe what happens to annual bluegrass when it dies during heat stress periods. When grass wilts, it turns dark blue to purple in color. Annual bluegrass does not wilt in the northern areas of the cool season grass region without mitigating circumstances. These circumstances can be knolls or slopes where adequate irrigation is not applied or where irrigation cannot be applied fast enough. This form of wilt is controllable with soil modification, proper irrigation, timing, and an adequate irrigation system. Wilt can be found on annual bluegrass fairways where irrigation is adequate, but recent studies have shown much of this is due to grubs, either the common large white grub or the smaller Black Ataenius beetle grubs. Both can be controlled with the application of an effective insecticide.

The fact that annual bluegrass normally does not wilt from high temperature alone where adequate irrigation is properly used first has to be accepted. Next time annual bluegrass begins to wilt, tear back the sod to determine if grubs are present before reaching for the irrigation system. It could help save your fairways!

HAS Decline of Annual Bluegrass

However, wilt is not the problem being referred to. The problem being referred to is one that causes an annual bluegrass turf to turn a dull yellow to bronze in color and eventually die. The disease involving these symptoms is called HAS decline. The symptoms are very different from the bluish-purple color turfgrass turns when it wilts.

HAS Decline Management

HAS decline management involves a cultural system for maintaining annual bluegrass plus fungicide application at the proper time. The cultural system will probably change with time because it is currently based on a limited research. This is due to the fact that past research on annual bluegrass has been limited to means of controlling it. Research on how to culture annual bluegrass has been conducted only in the past few years. At the current state of the art, the following is the best program available for maintaining annual bluegrass fairways.

Mowing height — 1/2-7/8 inches.

Irrigation — infrequent and deep during cool weather to encourage deep root growth.

— light, frequent during warm weather. May involve daily syringing during warm weather depending upon: soil type, spring weather, capacity of irrigation system.

Fertility — Nitrogen

— ½ lb of actual N June, July, August.

— 1 lb of actual N September and dormantly.

— New research data (Illinois) indicates annual bluegrass survives better with no nitrogen in July in the warmer areas of the cool season grass region.

— Phosphorus and potassium as needed, based on soil test. Preliminary evidence indicates higher phosphorus levels favor annual bluegrass survival.

Fungicide Program

There are 4 major annual bluegrass diseases which occur during the growing season: Sclerotinia dollar spot, Pythium blight, Rhizoctonia brown patch and HAS decline. Trying to maintain annual bluegrass without managing these diseases is futile. The following is an idealized fungicide program for managing these diseases. It is not a hard and fast program which should be followed to the letter. It is a framework from which you can build your own fungicide program.

The program incorporates all fungicide types at the most appropriate time. The best contact fungicides for HAS decline management are chlorothalonil, mancozeb, and maneb + zinc sulfate. The best systemic fungicides are benomyl, thiophanate -ethyl, and thiophanate-methyl. this is not to say other fungicides may not be appropriate. Substitutions should be made, based on personal experiences.

Table 1. Major Turfgrass Diseases on the 4 Major Cool Season Turfgrasses

KENTUCKY BLUEGRASS	CREEPING BLUEGRASS	ANNUAL RYEGRASS	PERENNIAL
Melting-out	Dollar spot	Dollar spot	Brown blight
Fusarium blight	Brown patch	Brown patch	Brown patch
Stripe smut	Pythium blight	Pythium blight	Pythium blight
Fusarium patch	Leaf spot	Leaf spot	Anthracnose
	Typhula blight	Anthracnose	Red thread
	Fusarium patch	HAS Decline	Rust
		Fusarium patch	Typhula blight
		Typhula blight	

Table 2. Comparison of Survival Requirements for Fairway Grasses

	KENTUCKY BLUEGRASS	CREEPING BENTGRASS	ANNUAL BLUEGRASS
Mowing height	1-½"	½"	½"
Irrigation	Minimal	Minimal	Frequent
Nitrogen	1-4 lbs/s	1-4 lbs/s	3-4 lbs/s
Phosphorous	Adequate	Adequate	High

Literature Cited

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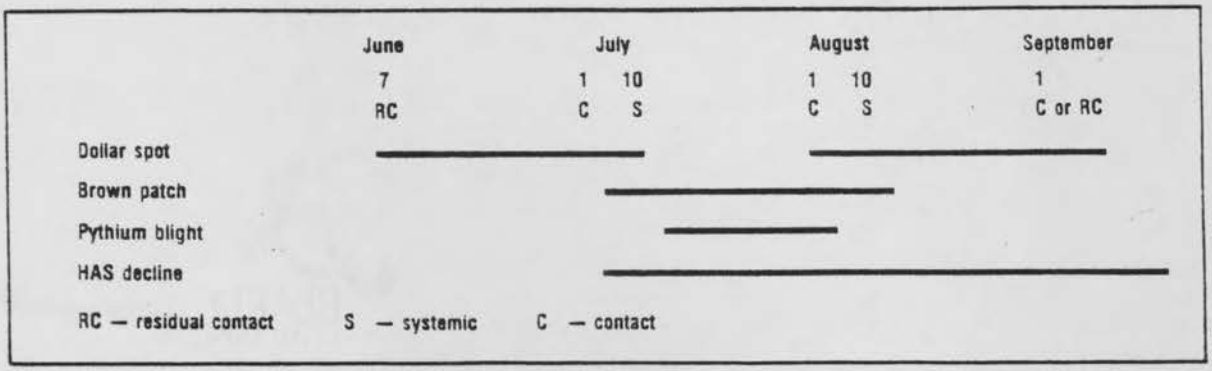

SNAP JUDGMENTS

The ability to think on one's feet, to make quick and accurate judgments under stress, is a valuable asset in the type of emergency situation which often descends on golf course superintendents. When such an occasion arises, a correct decision must be made quickly, with no time for pondering or further research. They must make a snap judgment, often with a considerable investment depending on their decision.

Experienced executives who have had a great deal of experience in making quick decisions under pressure say that making the right choice in such situations requires two particular talents. First, one must have a good memory, and, secondly, he must be able to use that memory in analyzing the situation at hand.

The background for making such snap judgments depends on the superintendent's intimate knowledge of his course and its operation. That's where the memory part comes in. Each bit of information may at one time or another be important, and by remembering bits of data, you can call upon your memory when you need to make a quick decision. A thorough, well-organized filing system can be a big help, too.

Another important factor is your grasp of the big picture. By keeping your goals in mind and relating the decision at hand to your overall course operation, you can narrow your options to a point where it is fairly simple to make the right choice.

One good way to develop your ability to make snap judgments is to go ahead and make them in non-critical situations without applying them. By making such decisions and then observing what really happens later, you can sharpen your decisive skill for the real thing.

Although there is no advantage to making snap decisions when there is time to do a thorough and rational study of the situation, you can develop your intuition and your ability to make quick choices with a minimum of stress. Whether you are ready or not, sooner or later you will be called upon to use them.

—Credit: *Forefront*

* * *

A housewife called the home builder to complain about the shoddy workmanship and the violent vibrations every time a city bus went by the house.

"Ridiculous," he said. "I'll be right out to check it."

The builder arrived, inspected the entire house but could find nothing visably wrong.

"Just lie down on that bed and wait until the next bus goes by. It nearly shakes you out of the bed. You'll see," remarked the lady.

The builder scoffed but accepted her challenge. He had just stretched himself out on the bed when her husband came home.

"What are you doing in my wife's bed?" he demanded.

The builder looked up sheepishly and said, "Would you believe waiting for a bus?"

* * *

He who gets too big for his britches will be exposed in the end.

* * *

Janet: "I've got half a mind to get married."

Becky: "That's all it takes."

* * *

The Federal Government recently conducted a research program here in Iowa to find out how farmers spend their money. One young man was interviewing a farmer who revealed that he spent 30% for animal feed, 30% for fertilizer, 20% for seed, 30% for fuel and 10% for food.

"But sir," said the researcher. "That adds up to 120%."

"That's right, Sonny," replied the farmer. "And it's getting worse every year."

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GCSAA Headquarters has just announced that the 1982 GCSAA Golf Championships will be played at Disney World, Florida, January 28 and 29th. GCSAA members and guests will compete for an individual title established in 1938, and the four-man teams from GCSAA's 97 chapters will play for a chapter championship established in 1946. In their early years, neither GCSAA championship was played regularly but, since 1968, both have been annual events. Northern Mich. Turf Managers Ass'n has never had a chapter team in these tournaments. If you plan to be at Disney World for this event and would like to be part of a team, please speak out and register your desire. Following this golf event, most golfers will proceed to New Orleans for the GCSAA's 53rd International Turfgrass Conference and Show.

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A FRIEND IS ONE TO WHOM ONE MAY POUR OUT THE CONTENTS OF ONE'S HEART, CHAFF AND GRAIN TOGETHER, KNOWING THAT THE GENTLEST OF HANDS WILL TAKE IT AND SIFT IT, KEEP WHAT IS WORTH KEEPING

AND

WITH THE BREATH OF KINDNESS, BLOW THE REST AWAY.

Arabian Proverb

MAIL THAT POSTCARD TODAY

THANKS