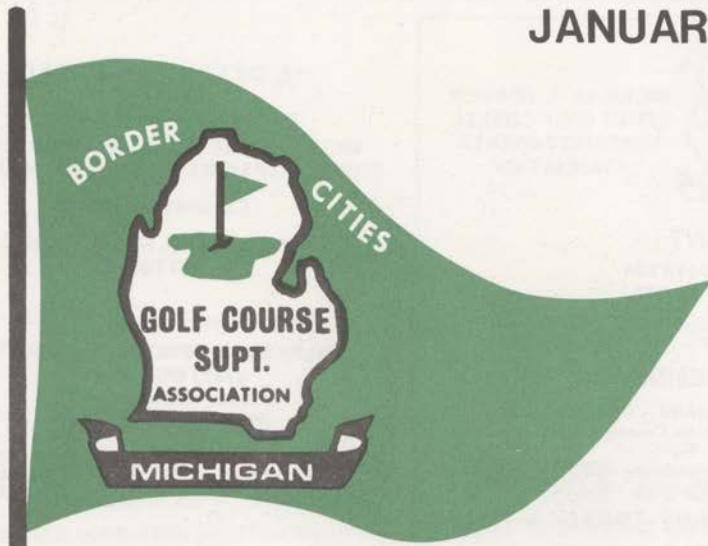


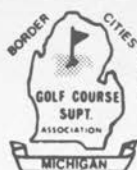
JANUARY 1984



A PATCH of GREEN

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Official Publication of the
Michigan & Border Cities Golf Course Superintendents Association



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Minimizing Winter Damage of Turf

Winter damage is seldom caused only by an exposure of the turf to low temperatures. Commonly, the turf is weakened by one or more external events which lowers the tolerance of the grass to low temperature. With this lowered tolerance, injury can result from relatively short exposures to freezing temperatures.

An explanation of these "external events" is necessary, therefore, to totally understand winter damage. The most common problem is the dessication of plant tissue. When dry winds remove moisture from leaves and stems, minor damage occurs and recovery in spring is rapid. If the meristematic tissue of the crowns is dehydrated, the damage is much greater and a serious loss of turf results. The mechanisms of water loss are the same in both cases. Simple transpiration is one method of loss. Transpiration losses only occur when free water is available in the soil for uptake by the roots. When the moisture level in the turf tissue is low and the roots cannot absorb water from the soil, a more serious mechanism of water loss occurs. As the air temperature drops, ice crystals begin to form in the intercellular spaces but not within the living cells. This causes water to move from within cells across to cell membrane to the intercellular spaces. A water deficit can result within the cell. Hardened cool-season turfgrass can tolerate this phenomenon well. Damage

occurs, however, during early spring when the hardening process reverses. The turf can no longer tolerate sharp drops in temperature and damage results. Insulation from an extreme temperature drop, therefore, is most critical in late winter. Snow is a good insulating material which does not require removal in the spring. Snow fences can be erected in the fall to help the accumulation of snow on crucial areas (perennial ryegrass turf, tall fescue turf, open areas, etc.). Where expected snowfall is minimal, other materials (leaves, straw, bark chips, etc.) can be used to provide insulation. Follow recommended procedures to prevent snow mold when using any cover material.

Excessive water is another leading cause of winter damage to turf. In areas of poor drainage, or where underlying

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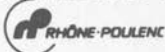


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THE FUTURE OF TURFGRASS

J.R. Watson

Vice President, Agronomist, The Toro
Company, Minneapolis, MN 55420

In the future, near future, the pressure to produce more food and fiber will intensity much beyond that of recent years. As developing nations demand their fair allocation of the world's food and fiber, those nations like the United States, Canada, and Australia will be call upon to divert more and more of their resources to support research and development in that area. Nevertheless, I am optimistic with respect to the future of turfgrass. For, turfgrass plays a very key role in our lives. It provides a site for healthy recreational activities; when incorporated into the landscape and properly maintained, it provides aesthetic appeal and contributes to the economic well being of a community. Functionally, turfgrass areas control both wind and water erosion, minimize glare and help to abate the build up of heat, break the impact of wind and provide safe areas for our children to play. For these and other to the future of turfgrass; however, I see the future as a period of great challenge to all involved with turfgrass – the researcher, the extension agent, the manager and the suppliers of equipment and materials.

We in the turfgrass field must learn to articulate our position; we must learn to speak out in support of our turfgrass areas; we must encourage public officials to support green belts; in short, we must promote and sell our commodity! And, we must do this within the constraints of the pressure for increased production of food and fiber. We must be practical in our requests; we must be firm in our position with respect to the value of landscaped sites; we must be realistic in our approach to ensure our fair allocation of water and fertilizer, we must encourage conservation of water, of plant food; and also, encourage conservation lands – coping in all our endeavors. And, most importantly, we must support research efforts whole goals and objectives

lead to superior plants, better cultural practices and wide spread acceptance and use of the results developed.

As we look ahead we must necessarily evaluate and build on the past, we must set objectives and goals for the near and long term, and we must develop the plans needed to implement and ensure accomplishment of these goals. And, we must develop alternate plans and can be put into effect when the **ifs** become actualities.

The turfgrass industry – all facets of turfgrass – has a proud record of accomplishment. The achievements of the past quarter century include new warm and cold season turfgrasses, new fertilizers, new pesticides (fungicides, insecticides, and herbicides), new equipment and new cultural techniques. These are some of the material accomplishments. What about the achievements of the individual? This well may be the area in which the greatest progress has been made. Great achievements, have been made in the role played by today's professional turfgrass manager, the certified golf course superintendent and others who direct and guide the activities of the many and varied turf facilities that collectively represent the turfgrass industry today.

Yet, the turfgrass manager well may face the greatest challenge in the near term. For, he must plan his operational programs, develop alternate plans in the event of budget curtailment, and implement existing procedures. He, also, must keep abreast of and implement programs based on current and future research results. This may be his greatest challenge!

In the future, as now, there are a number of areas that represent major challenges for those of us in the turfgrass field. Among them are (1) the ability to disseminate the information developed from research programs and to have it

CONTINUED PAGE 15

Golf's "Old Tom Morris Award" Goes to Bob Hope

Bob Hope has been selected to receive the Old Tom Morris Award from the Golf Course Superintendent Association of America. The award is one of the most exclusive major honors in the world of golf. Selection of award winners is made on an unscheduled periodic basis, and Hope will be only the second recipient. The first was Arnold Palmer. In announcing the selection of Hope, GCSAA President Robert W. Osterman also outlined the background of the award: "This Association established the Old Tom Morris Award to satisfy the need for a significant international honor that would help identify with the true heritage and traditional founding of the game. 'Old Tom' Morris - the first 'superstar' of golf

- was a greenkeeper, golf professional, club and ball maker, golf course architect and accomplished player who won four British Open Championships between 1861 and 1867.

In response to notification that he had been chosen to receive the award, Hope recalled that back in 1939 he had personally shot movies of Old Tom's headstone at St. Andrew's Cemetery (Scotland). "I've never seen a headstone with a fellow in a golf pose before." Hope said, "but it sure pleases a lot of us."

If anyone has helped to immortalize the golf swing, it's surely Bob Hope. He has swung a golf club on more stages than most people have on golf courses. His swing has taken

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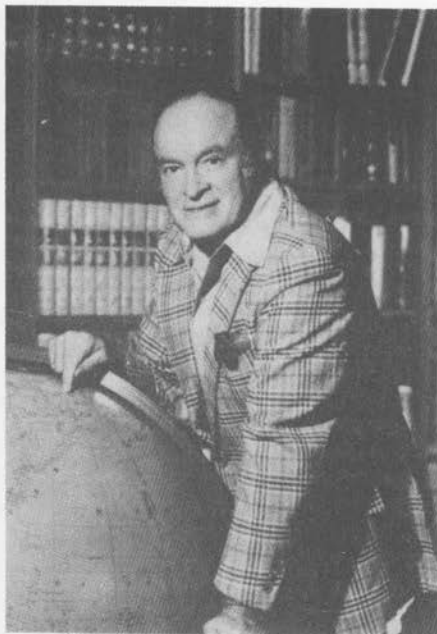
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him literally around the world – many, many times.

Selection of Hope as the second recipient of the Old Tom Morris Award was entirely in keeping with the intent of the award, according to GCSAA President Osterman: "Besides being a 'superstar' in his own time, much like 'Old Tom,' Bob Hope has displayed a continuing, selfless commitment to golf and further the welfare of the game in a manner similar to that of 'Old Tom.' Bob Hope's promotion of the game around the world – and the continuing popularity of his own Bob Hope Desert Classic – provide highly visible evidence of his commitment to the game and its continued welfare."

More than a thousand highly prestigious awards and citations have been presented to Hope. The presentation of the Old Tom Morris Award completes the "Grand Slam" of golf awards which includes his

CONTINUED PAGE 11



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Bob Hope, cont.

previously collected honors of the USGA's Bobby Jones Award in 1978 (jointly with Bing Crosby), the Golf Writers Richardson Award in 1953 and his recent induction into the Golf Hall of Fame at Pinehurst.

Hope is scheduled to receive the award during GCSAA's International Turfgrass Conference and Show to be held in Las Vegas, Nev., Jan. 29-Feb. 4, 1984. The presentation will be made at GCSAA's annual banquet the evening of Feb. 3 at the MGM Grand Hotel.

GCSAA is a professional association 5,500 strong, representing golf course superintendents in the United States, Canada and 25 other countries. The Association-sponsored annual conference and Show is the premier international event in professional turfgrass management, and GCAA's monthly magazine - Golf Course Management - is the leading publication in its field.

NEWS

He has starred in 60 movies; been honored by the Motion Picture Academy of Arts and Sciences - but he has never won an Oscar. He has played scores of bumbling, cowardly fast talkers, yet he is the "hero" who brought laughter and cheers to the troops on the battle-grounds of three wars.

Although he is not particularly known as a singer, he has introduced more than thirty popular songs to the public and has made "Thanks For The Memory" and "Buttons And Bows" famous the world over.

Through humor he has tempered with the country's 'sacred cows.' He's hailed as America's best loved comedian.

He holds 45 honorary doctorates (at last count); has written and published eight books, but he never finished college.

He has entertained and been honored by nine presidents; been courted by royalty and dined with international leaders; yet he speaks for and to the heart of a common man.

He's America's most visible patriot and he wasn't even born here.

A golf tournament is named for him.

Hospitals, schools, theatres, and even flowers are dedicated to him. He's numbered among the top ten most admired men of the 20th Century by the adults and teenagers of four generations.

He is called 'Mr. Humanitarian' and 'America's most prized ambassador of goodwill throughout the world;' the 'King of Comedy' and the 'Chairman of America Humor.' But the monicker that encompasses the whole man is 'Mr. Entertainment.' For indeed, he is total; the ultimate entertainer. He has triumphed in all five major show business media - vaudeville, stage, motion pictures, radio and television. Yet, he reminds people that he was once a song and dance man who was compelled to take second billing to Siamese twins and trained seals.

In the entire history of show business, no individual has traveled so far - so often - to entertain so many.

His name is Bob Hope.

BOB HOPE FACT SHEET - 1983

Born:	Eltham, England - May 29, 1903
Raised:	Cleveland, Ohio - since age 4.
Educated:	Cleveland Public Schools
Married:	Dolores Reade - Feb. 19, 1934, in Erie, Pennsylvania
Children:	(4) Linda-b. July, 1939; Anthony-b. July, 1940; Kelly-b. July, 1946; Nora-b. August, 1946'
Grandchildren:	(4) Zachary-b. February, 1969; and Miranda-b. July, 1971 to Anthony and Judy Hope; Andrew-b. August, 1970-to Nathaniel and Linda Hope Lande; Alicia-b. Thanksgiving Day, 1973-to Nora and Sam McCullagh, Jr.
Residence:	North Hollywood, California; Palm Springs, California
Early Career:	Dance instructor, clerk, amateur boxer, newspaper reporter
Show Business Debut:	Dancing act with partner George Byrne, in a Fatty Arbuckle Revue.

EVERGREEN NEEDLE LOSS HEAVY

Unusually heavy needle loss is being seen on narrow-leaf evergreens throughout the midwest.

Evergreens are so named because of their habit of keeping leaves (needles) through the winter. However, according to James A. Fizzell, University of Illinois Horticulturist in Cook County, evergreens shed their needles on a regular schedule, sloughing off old ones as new ones sprout. Under normal conditions, the needles are produced in the spring and live two or three years. When sufficient new growth has taken place on the tips of the branches, these older needles in the center drop off, having served their purpose of photosynthesizing carbohydrates for the trees.

Arborvitae and white pine, for example, drop needles when the needles are two years old. They have a "needle life" of two years. Other trees have longer need-

le lives. That of the bristlecone pine is eight or fifteen years.

Normal needle drop occurs during late spring and summer and is usually not noticed because of the density of new growth hiding it.

During the last few weeks, University of Illinois Extension offices throughout northern Illinois have received a tremendous number of calls from distressed plant owners reporting browning and dropping of needles from all types of evergreens. Inspection of these plants reveals no diseases or insects but early senescence of one and two year old needles. In some cases even current years' growth is affected.

Fizzell says the plants have been exposed to tremendous stress since these needles were formed.

The summer of 1981 was very wet

CONTINUED PAGE 14

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Needle Loss, cont.

causing plant roots to suffer. The winter of '81-'82 was one of the most severe on record damaging exposed foliage. The winter of '82-'83 was so mild some plants had difficulty going dormant. The cold wet spring of 83 and the hot dry summer will go down in the record books.

It is no wonder the plants are unhappy, says Fizzell. Although the trees have a large amount of browning, where the new needles are unaffected there is no cause for alarm. The buds at shoot tips will grow next spring improving the looks of the somewhat sparse trees.

Where shoot tips have turned brown and lost needles, the buds are most likely dead too, but don't prune out these limbs until next spring when you know for sure whether they will grow. If branches next to the dead limbs are healthy, they will grow into the voids left by pruning.

Plants under severe stress need special attention. They should be watered well if fall continues dry. If they are in poorly drained soil, some means of draining off excess water needs to be devised.

Make every attempt to avoid root injury. Trees in exposed locations may benefit from treatment with an antidesiccant to reduce moisture loss from leaves.

Or, construct some sort of screen to protect exposed plants from winter sun and wind.

While plants under stress normally recover when conditions improve, spruce and pine are susceptible to attack by disease organisms under such conditions. Cytospora canker is the most damaging of these and can ultimately kill the trees. There is no cure for cytospora canker so it is important that the plants receive the necessary care to let them recover rapidly before the disease attacks.

**James A. Fizzell, Sr. Ext. Adviser
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He who knows nothing else know
enough if he knows when to be silent.
-Japanese proverb



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GCSCF PRAYER BREAKFAST GUEST SPEAKER — JIM OTTO

Conference time is just around the corner and as you make plans for Las Vegas, we would like to remind you of a special event. On **Monday, January 30, 1984 at 7:00 A.M.** we will hold our 5th annual Golf Course Superintends Christian Fellowship Prayer Breakfast. It will be held in the MGM Grand Hotel in the Metro Room #5. The room will be open at 6:30 for coffee and fellowship with your friends. It might take a little extra effort to rise and shine for a 7:00 A.M. event, but most of us are used to getting up a lot earlier than that. Besides, they say that Las Vegas never sleeps.

We are happy to announce that our guest speaker will be **JIM OTTO**, formerly All Pro Center for the Oakland Raiders. Jim will have some powerful and interesting things to share with us. Although we call this event a "breakfast", the hearty eaters should know that it will be continental menu; coffee, tea and rolls.

Please remember that everyone is invited. We urge you to bring a friend, and especially families if they are along. This is a great way to start out the conference and we hope you will not miss it. We will have a GCSCF Prayer Breakfast Booth this year set up in a visible location. Watch for it, and stop by for additional information.

Plan now to attend and meet Jim Otto. You will be blessed for the experience.

**GCSCF Prayer Breakfast
Committee**

Future of Turfgrass, cont.

accepted and applied by the end user and (2) obtaining support for the much needed basic research in the areas of grass breeding and cultural practices. Let me use these areas to illustrate two of the major challenges facing the future turfgrass industry.

We have a great deal of research information "on the shelf". Information that is either not communicated, or if disseminated, is not used effectively. An excellent example is water management. Let me quote from a PhD

CONTINUED NEXT PAGE

Future of Turfgrass, cont.

dissertation with which I am quite familiar.

1. Moisture levels exert a greater compaction.

2. The **moderate** use of supplemental irrigation is necessary to produce high quality playing turf that will remain green throughout the growing season.

3. Unwatered plots were brown and in poor condition for play over an extended period of time.

4. Moderate usage of supplemental irrigation on intensively managed turf will favor development of bentgrass at the expense of the slower growing species, so that, eventually the turf will consist largely of bentgrass.

5. Supplemental irrigation in quantities great enough to maintain a soil at approximately field capacity is unnecessary and **encourages disease**, and the **subsequent invasion of crabgrass** and clover.

6. Excessive watering creates a soggy soil condition, promotes **shallow rooting** of the turf, **encourages disease** and the **invasion of crabgrass** and clover -- and, if *Poa annua* had been present or the height of cut lower, I am confident it too would have increased. That information was published in 1950 -- 32 years ago. It was from my thesis at Penn State University, which as many of you know, was sponsored by the United State Golf Association, Green Section.

Since that time others have investigated other aspects of water, its application and use on golf course turfgrass. Have we made progress? Yes -- we've made a great deal of progress in all phases of turfgrass management these past 30-35 years. One of the reasons is that aside from agriculture, nothing that grows has received as much attention as turfgrass, especially golf course turfgrass. Research -- private, industrial, and university -- and extension activity have helped the industry make enormous strides. Knowledge, technology, and management techniques relating to turfgrass have all advanced dramatically. But despite those gains, water and water related problems are still with us.

As an example, let me quote from an article by Dr. Jack Hall of V.P.I., pub-

lished in the 1978 proceedings of the Rocky Mountain Turfgrass Conference. "We killed more golf greens in Virginia in 1977 with improper irrigation than any other management factor." Jack went on to say that too often greens were irrigated when the intent was to syringe and when this happens at 90 degrees F temperatures, damage is likely to occur. Automatic irrigation systems offer many advantages, but too few have the capability to "mist" water. Only a limited number of manufacturers have equipment capable of properly syringing (misting) and **too few systems designs** incorporate this feature -- it does cost extra but there are costs involved in replacing greens! (For each gm of water vaporized, 540 calories of heat are dissipated.) Dr. Ralph Engle at Rutgers has shown the beneficial effects of misting as opposed to drenching on bentgrass root growth -- both in the greenhouse and in the field. A slide will show these results. There obviously is a gap between **what we know** and **what we practice**. Sometimes I think it's a chasm. To date, we seem to have been incapable -- at least unsuccessful -- in bridging that gap. Why? Perhaps it's an economic factor, perhaps improper dissemination of information, perhaps resistance to change, and probably some of all these reasons plus others.

Certainly, I don't have an answer. **But I firmly believe that one of the major challenges facing our industry in the next few years is to find a way to narrow this gap -- we simply must find a solution to this problem.** We need to learn more about such things as drought tolerance and rooting characteristics of grasses, water requirements, water techniques -- water application and efficiency -- water conservation, soil-air-water relationships, leaching and weeds and their ecological relationship in the turfgrass environment. And, then, we must communicate the information, accept it and implement programs based upon it.

Also, we must find ways to avoid pollution and to use recycled water. We have not learned to use water with the kind of efficiency that we must if we are going to play a significant role to help keep this planet from running out of

water. And, we must do so!

This brings me to my second point. Support of Research. In addition to recommending that we find a solution to the information gap, I should like also to suggest that we -- you, me, all of us here -- do everything we can to generate more knowledge -- more new information, better technology, better products, better equipment -- so that turfgrass management will continue to advance. The future of turfgrass may be at stake. Certainly, advancement is dependent upon the quality and the amount of research we will support in the near term. We have a great resource in the workers at our experiment stations and in our industry. But, they, especially the University personnel, must be funded. And that funding well may have to come from the private sector. Public funding of research will, in all likelihood, be diverted to production of food and fiber, **not turfgrass**. With appropriate support (lobbying) we may be able to retain our research personnel at our local grant colleges; but, we, the private sector, may have to generate the funds to support future turfgrass research.

SUMMARY

The future of turfgrass is one of challenge. to meet and to accept the changes that are occurring and that will occur. We must welcome changes as a potential for progress, not fear it as a threat to our stability. Our world is changing -- are we changing with it? That is the real challenge we must meet. We must learn new techniques, new procedures; we must probe for the truth --- for the facts --- for the basic principle. We must broaden our horizons to meet and to accept the challenges that new life styles, or shortages, or new modes of communication, or dwindling natural resources have brought. Our turfgrass facilities are an integral part of our present and of our future life style and future needs. They are a vital and a necessary part of our way of life. They must be preserved; they must be maintained properly; they demand a concerted research effort, funded by the private sector; and they cry out for an even greater effort to communicate and utilize results of research. The future of turfgrass --- it's in **your hands**.

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Minimizing Winter Damage, cont.

soil is frozen, water can accumulate during thawing periods. Thawing can occur in some locations under intense sunlight while air temperatures remain below freezing. If these areas remain under water for an extended amount of time, the grass crown tissue takes up water. Grass tissue in this hydrated state is more sensitive to low temperature. A sudden drop in temperature below 20 degrees F can cause serious losses. Compacted areas (green fringes, tees, etc.) are quite prone to this type of damage.

What can be done to prevent these catastrophies? First, don't panic! Many damaged areas will recover slowly if managed properly. Find the extent of damaged area, or better yet, determine first if there is any winter damage. If you have had damage in an area before of if you suspect a likelihood of trouble, remove several plugs of turf as soon as the soil allows. Place the plugs in a greenhouse or in you shop, allowing them to warm up slowly and watch for new growth. After several weeks, you will know if there is nothing to worry about, you missed the damaged areas, or you can begin to plan for renovation. Despite the results, it is nice to know before the growing season.

It is not too late to prevent some potential winter damage. Remember, most damage occurs during late winter ly spring during periods of thawing weather. Don't try to save everthing; concentrate your efforts on the critical areas where you suspect problems. Where standing water is a problem, try to remove it slowly.

Snow and ice preventing natural runoff

should be removed or grooved to release the water. One alternative to physical methods is to apply a coating of dark material (activated charcoal, milorganite, etc.) to the ice or snow and let the sun do the rest.

Ice cover over bentgrass or Kentucky bluegrass is generally not a serious problem. Other cool season turfs, especially perennial tyegrass can be seriously damaged by an ice cover of moderate duration. Large continuous sheets of ice cover perennial ryegrass turf should be removed mechanically or as previously outlined.

If too little water is the problem, be cautious in applying more. Where snow cover is lacking, straw, leaves, or other mulching materials can be used to buffer the turf from a sudden drop in temperature and minimize further water loss. Use only mulching materials that are weed seed free. Weeds will tend to be a problem in damaged areas, therefore, tupersan should be used in conjunction with seeding Kentucky bluegrass. Broxomynil can be used to control immature broadleaf weeds after germination.

Plan ahead for next winter. Correct drainage problems this season for areas receiving winter damage. Be certain the soil moisture levels are adequate next fall, before draining the irrigation system. Don't aerify critical areas late in the year and consider using a mulch where snow cover is minimal. Mulches also promote early green-up in spring. Utilizing these few procedures, winter damage to turf should be a problem of the past.

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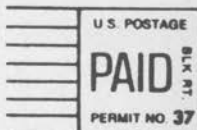
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