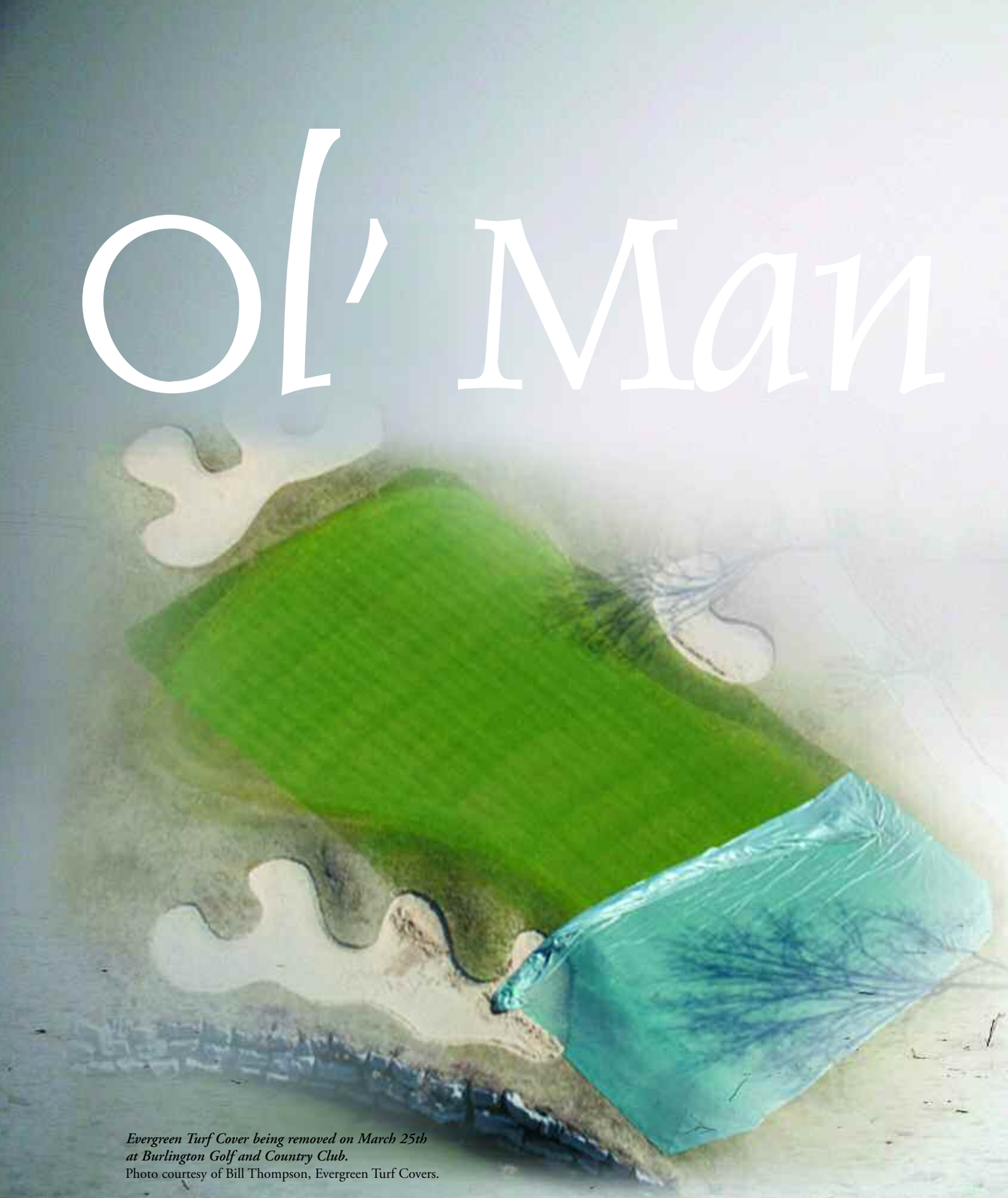
Ol' Man Winter

A Guide to Winterizing your Greens



Evergreen Turf Cover being removed on March 25th at Burlington Golf and Country Club.
Photo courtesy of Bill Thompson, Evergreen Turf Covers.

The golf industry has changed tremendously over the past two decades and superintendents have seen their roles move into areas of management and public relations. However the fact remains that the key to any golf experience is the golf course itself. Regardless of the strength of the maintenance budget and staff size and capabilities the number one priority for all turf managers is the golf course putting greens.

NUMBER ONE PRIORITY

Every facility tries to create solid playing conditions for all areas and features that will provide an enjoyable experience for the golfer and if circumstances require some corners to be cut, the last area to be compromised is the maintenance requirements for the greens.

Putting surfaces are the essence of how your golf course is perceived; not too many players walk off a golf course and say "nice rough"!

Providing consistent, dense quality surfaces regardless of whether you are bent or poa annua is a year round challenge for all turf managers due to the many diseases, excessive wear, low mowing heights, heat stress and excessive moisture, to name a few. Whether you are preparing your greens to survive the shoulder months or putting them to bed after a golfing season, winterizing greens is a crucial task in maintaining the facility's number one entity.

Enduring one hundred or more rounds of play in single digit temperatures, minimal growth, combined with excessive moisture and ideal disease environment for 4 to 5 months (November to March) or preparing for a long winter of snow, ice, wind, freezing and thawing, winter greens preparations are a key to a successful golf course operation. Regardless of when your season ends (or even if it doesn't) when the temperature changes, skis are put away and golf clubs are pulled out of storage, the calls start coming in for tee times or opening dates. A couple of common questions are always: How are the greens? How many temps? The status of golf course greens come spring is crucial in setting the tone and sometimes business for the year.

TURF CARE

Practices for maintaining healthy greens going into the winter months vary across Canada as do our region's climatic conditions, but as a rule of thumb, initial preparation begins in late September and is certainly in full swing by October. Fall aerification of greens is pretty standard in the golf industry and is a maintenance procedure to alleviate the previous months excessive wear and tear and compaction, prepping for winter play or laying the foundation for the surfaces to be put to bed for the winter. In conjunction with aerification an initial fungicide application is put down. Many facilities have found the most effective application is a combination of two fungicides (i.e. heritage and daconil) applied at half the recommended rates. In most if not all instances additional applications are required until covers, if utilized, are installed or until the snow arrives.

Snow covers can be very effective to protect the greens, and permeable or breathable covers are used along with non permeable (ice protector) and combinations of both. Covers for an average green (6,000 square feet) are approx. $1,500 and are quite commonly used in providing protection for the greens. Covers also offer protection from wind desiccation and help retain moisture in

Non-covered vs covered with a three layer cover.

Effect on green covered with three layer cover – permeable bottom cover, straw intermediate layer; impermeable white top cover.

the profile. Some facilities prefer a generous sand topdressing which can provide some insulation to the turf and in the early spring can be easily matted in. In some areas the utilization of flax straw has been very effective as well. The product comes in rolls and can be easily applied directly on top of the turf and is not too difficult to remove in the spring. In some instances a breathable cover is put over the flax and pegged down to secure it in place. Some facilities following fungicide applications have put down a breathable cover and then applied a layer of flax for insulation and then an ice cover over the top. However all these tools do come at a cost and are not always an option for some facilities.

Ice damage is also a major concern. There are few turf managers who have not heard of the "ninety day" rule, in that ice cover on turf after that period of time, if not before, will suffocate the turf and cause extensive winter kill. Some facilities are fortunate enough to have year round

Close up of a cover being removed in the early spring.

staff who will be available to break off the ice or in the event of a freezing – thawing scenario be able to remove the slush from melted snow before it turns to ice. For those who do not have the resources to keep staff on during the winter months, plan to at least have staff available on call to lower your risk of facing serious consequence in the spring.

MOTHER NATURE

Many facilities have set closing dates for their course in order to minimize the risk of being caught by an early storm and the accompanying headaches of the greens not being properly prepared. A balance between keeping the facility open as long as possible and dealing with sudden weather changes makes having a plan essential for the turf manager. The same situation can also occur in the spring as once again many facilities may have set an opening date but if the weather seems

to be favorable, they may decide to open earlier. It can be a very tough decision to balance the advantages of a later closing or earlier opening date against being caught with adverse weather and possible damage or slow recovery of the greens. As Dave Lister superintendent at Copper Point Golf Club noted, if greens have not successfully come through the winter or damage has been incurred in the spring "bad words spread faster than the good words" and the business of a facility may be greatly affected.

RESEARCH RESULTS

Two research projects[1] were conducted in Montreal and Quebec in the 1990's and found that soil temperature is more critical than air temperature for the winter survival of annual bluegrass. Evidence was obtained that local winter conditions (particularly snow cover) and winter protective cover characteristics are two major factors influencing golf green soil temperatures during the overwintering period. Thick and stable dry snow cover represents the best natural protection against freezing golf green turfgrass. In the case of thin snow cover, golf green protective covers are invaluable tools for reducing and mitigating cold stress. Insulating materials (i.e., curled wood mat, straw, or air space) under an impermeable cover reduced the range of soil temperature variation and minimized the effect of freezing air temperature and thin snow cover, consequently enhanced winter survival of golf greens. It was also suggested that the covers will be most successful when used together with a sound turfgrass management plan. Proper mowing practices and a sound fall fertilization program are very important to maximize energy reserves and optimize cold hardening of turf, and improve winter survival of annual bluegrass golf greens.

STRIKING A BALANCE

Golf course superintendents face a difficult situation when selecting the best management practices to ensure winter survival of recurrently damaged greens: either they protect the greens with impermeable covers and expose the turfgrass to anoxia problems or they do not use covers and increase the risk of damage related to extreme subfreezing temperatures, excess water, and ice formation. Options to mitigate the negative impact of higher soil respiration rates on recurrently damaged greens include the rebuilding of the greens using sandbased USGA methodology and ventilating under protective covers during winter. The direction of future research is aimed at developing passive or active ventilation methods that could efficiently supply oxygen under the cover and withdraw carbon dioxide and other metabolic gases.

The NGCOA Canada Environmental Position Statement outlines that golf courses are intrinsically linked to the natural environment and as such, must continue to be good stewards of the environment and set the example in environmental stewardship. The standard usage of Integrated Pest Management (IPM) and Best Management Practices initiated by the CGSA are clear messages that the science and technology being used to properly maintain turf is in fact of benefit to the environment. Without question the golf industry is more proactive towards the environment than ever before. It was only 10 to 15 years ago that numerous facilities sprayed everything but now there are regulations and requirements for applications. The preparation for winterizing greens is now a science that balances environmental responsibility with economic sustainability. It is important that all golf industry partners work together in endorsing and communicating the efforts being done to date for if restrictions come into place, as is the case in Manitoba, limiting the necessary practices required to properly winterize a facility the recovery costs could "sky rocket" and jeopardize the operation of many facilities.

[1] Rochette, Philippe, Dionne, Julie et al: Atmospheric Composition under Impermeable Winter Golf Green Protections: Crop Sci. 46: 1644-1655 (2006) & Dionne, Julie: Winter Protection of Annual Bluegrass Golf Greens. How protective covers can reduce winter damage to putting greens: USGA Green Section Record: September/October 2000.

DOUG FERNE

Doug Ferne, NGCOA Canada, Regional Director for B.C. Chapter. Twenty seven years industry experience in a variety of roles including Project Manager, Turf Consultant, Director of Golf and Superintendent. Can be reached at dferne@ngcoa.ca or (250) 220-5128

Everything but the Sun

We can supply everything for your course, except a clear forecast. The Golfmax Purchasing Program includes agreements with over 60 suppliers that can save your golf operation money in every department. Save on insurance, f&b, fertilizer, irrigation, pro shop apparel and accessories, range supplies, telecommunications, credit card rates, your golf cart fleet, scorecards, and more!

GOLFMAX
PURCHASING PROGRAM

Food Services
Ontrak Purchasing & Consulting Services
www.ontrakpurchasing.ca

Pro-Shop
Dollco Printing
www.dollcogolf.com
FWGOLF
www.fersten.com/golf
G.D.F. Distribution
www.teemate.com
Golf Supply House
www.gogsh.com
Nearly New Golf Balls, Inc.
www.nearlynewgolfballs.com
OnTour
www.trimarksportswear.com
Sportscover International
www.q1golf.com
Srixon Sports USA Inc.
www.srixon.com
Tournament Sports Marketing Inc.
www.tournament-sports.com

Operations
Club Car, Inc.
www.clubcar.com
Golfmax Insurance Plans
www.mooremclean.com
Jencess Software & Technologies Inc.
www.jencess.com
Lenbrook Canada
www.lenbrook.com
Moneris Solutions
www.moneris.com

Turf and Maintenance
Agrium Advanced Technologies
www.nu-groturf.com
Kubota Canada Ltd.
www.kubota.ca
NAPA
www.napaonlinecanada.com
Rain Bird International Inc.
www.rainbird.com
SmithCo
www.smithco.com

Unique Products & Services
Burnside Golf Services
www.rjburnsidegolf.com
CEG Energy Options (Alberta/B.C)
www.cegenergy.com
ECNG Energy (Alberta)
www.ecng.com
Golfmax Inc.
www.golfmax.com
Levac Propane Inc. (East.Ont/Out.)
www.propanelevac.ca
MacEwen Petroleum Inc. (East.Ont/Out.)
www.macewen.ca
NEBS Deluxe PinPoint
www.nebs.ca
PEI Vapor Systems
www.vapordragon.ca
Petro-Canada
www.superpassonline.com
Primus Canada
www.primustel.ca/ngcoa
Sparling's Propane (SWOnt./Cent.Ont)
www.sparlings.com
Springvale Nurseries (Atlantic)
www.springvalenurseries.com

Golfmax is the Purchasing Program of the NGCOA Canada; where on behalf of its members, the Association negotiates volume-related agreements with suppliers based on the total membership's purchasing power.

To capitalize on the purchasing power of 1,300 NGCOA Canada members, call Toll Free 1-866-626-4262 or visit www.ngcoa.ca for complete Golfmax Purchasing Program information.