

Got Drainage?

By Bob Vavrek, Senior Agronomist, USGA Green Section

Editors Note: This article was originally printed in the USGA Green Section Record November 16, 2011, and is reprinted here with permission.

Have you ever noticed an accumulation of water along the perimeter of a putting surface during and after a heavy mid-summer thunderstorm, especially where the green transitions into collar or approach? If so, these low, poorly drained sites can be highly susceptible to crown hydration or ice-suffocation winterkill. During summer, these perimeter puddles will disappear quickly as water percolates through the soil. However, these puddles can persist much longer when there is frost in the ground, and the combination of standing water plus cold temperatures is the classic recipe for severe winter injury.

Where is the lowest (deepest) point in the problem puddle? That can be difficult to determine unless standing water is present during the excavation process. Visit the site during or right after heavy rainfall and place an irrigation flag in the deepest water before it percolates into the soil. You can fake rain with an irrigation hose or slowly dump a few 5-gallon buckets of water above the

problem areas to produce a puddle. Paint a dot on the putting surface where you placed the flag. Refresh the paint as necessary until you strip the turf. Another option is to mark the deepest part of the puddle by pushing a nail deep into the turf. A metal detector can be used to find the spot later.

Any combination of factors, such as poor design, poor construction technique, settling or an excessive accumulation of sand topdressing in the collar can hinder the flow of excess water off the putting surface. Regardless of why it occurs, it's not too late in the season to address at least a few of your green's worst perimeter drainage problems. Options to consider include:

1. Use a sod cutter or Miltona sod stripper to create a channel from the lowest point where water pools along the perimeter of the green through the elevated collar or approach. Extend this canal or gutter into an outfall off the green that is lower than the puddle. Wrap the strip of sod in a geotextile fabric and place it in a nearby bunker. It may survive the winter and can be used to repair the trench in spring.

PENDELTON TURF SUPPLY

Ed Witkowski
414-640-6447
pendeltonurf@tds.net

805 Ela Avenue
Waterford, WI 53185
Phone: 262-534-3334
Fax: 262-534-2990



Todd Fregien
414-640-2265
pendeltonurf@tds.net

FULL LINE OF TURF PRODUCTS
CHEMICALS • TEE & GREEN SUPPLIES
TIRES & TUBES • NEW PRODUCT INFORMATION

**SATISFACTION
GUARANTEED**

QUALI-PRO

Nufarm
Turf & Specialty

**BASF
PROFESSIONAL
TURF™**



EC GROW

**JACKLIN
S E E D**

AQUATROLS®

Jay-Mar, Inc.
Liquid Golf Course
& Turf Fertilizers

USGA GREEN SECTION RECORD



(L) Visit a green during or right after heavy rainfall to document problem areas along the perimeter of the putting surface where an elevated collar or approach is impeding surface drainage. These sites will be highly susceptible to winterkill when frost is in the soil. (R) A heavy roller can be used to slowly lower the grade of slightly elevated collars and approaches that are impeding the movement of excess water off the putting surface.

2. Cultivate the area of the collar or approach that is impeding surface drainage with 5/8-inch hollow tines. Remove the cores and water as much as necessary to soften the soil. Use a heavy (up to 1-ton) roller across the cultivated site to slowly lower the grade of the elevated turf to the point where surface drainage is restored. The open holes will provide space for the soil to shift under the weight of the roller. Several coring/rolling operations may be required to attain the desired result.

3. Obviously, the most permanent one-step remedy is to strip the elevated collar or approach, lower the grade to facilitate surface drainage and then replace the sod. Altering the grade of a collar or putting surface sounds simple, but it can be one of the more tedious and frustrating undertakings you will ever attempt on the golf course.

4. A considerable amount of sod will need to be removed and replaced if a smooth transition from the disturbed to undisturbed turf is desired. Making subtle and seamless changes in elevation across a highly visible and heavily used area of the course is as much an art as a science. However, the experience you gain during the first excavation will pay dividends during any subsequent attempts to re-grade a collar or approach.

Improving drainage is always hard work, but it's still much easier a task to address drainage problems around greens during late fall when golfers are away, versus the highly stressful process of seeding or sodding winterkill on greens during spring when golfers are breathing down your neck.

When you use the best, it shows.

With a portfolio of products unmatched in the industry, Syngenta is a necessity for every great business. From herbicides to fungicides to growth regulators, we have everything you need to maintain healthy turf.

Contact Phil Spitz to learn more about Syngenta products.
Cell: 414-429-2015 philip.spitz@syngenta.com

www.greencastonline.com

©2011 Syngenta Crop Protection, LLC, 410 Berg Road, Greensboro, NC 27409. Important: Always read and follow label instructions before buying or using Syngenta products. The label contains important conditions of sale, including limitations of remedy and warranty. Meridian®, Renew®, and Tenacity® are not currently registered for use in all states. Please check with your state or local extension service prior to buying or using these products. Scimitar® GC is a Restricted Use Pesticide. Awarid®, Bonar MAX®, Barricade®, Concert®, Dacoon ULTREx®, Dacoon Weather Shield®, Dacoon Zif®, Decature®, Fullside®, Headway®, Heritage®, Inratra®, Medallion®, Meridian®, Monument®, Renant MAGNUM®, Prime MAX®, Piroxyl® Liquid, Renew®, Renew®, Scimitar® GC, Subdue MAX®, Tenacity®, Trimec®, and the Syngenta logo are trademarks of a Syngenta Group Company.