

This Man Walks the Talk

Our 40th anniversary offered the Peaks & Prairies GCSA a chance to reflect on the history of the association (formally Wy-Mont) and the profession.

Dane Gamble offered a thoughtful presentation and turned it over to Dan Tolson, CGCS. On behalf of the association, Dan paid tribute to his father, Don Tolson, CGCS - a mentor to his peers, a superintendent, a father



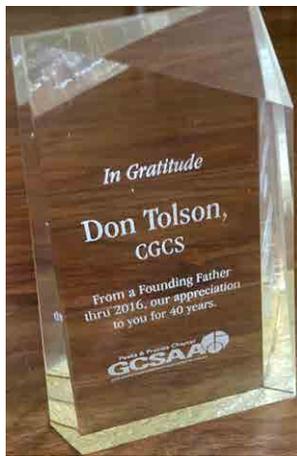
Dan, Kristen, and Don Tolson

and even as a grandfather. The award honored Don for 40 years of service to the association – the association he started with a small circle of peers.

Don often repeated the same sentiment at our conferences, of which he was usually always in attendance. “You can learn something new at every conference.”

Thank you for 40 years with the association of walking the talk, Don.

Check out Dave Phipps’ article in this newsletter – which includes the text of Dan’s presentation. This same article and Don’s acceptance can be viewed on video via Phipps’ blog.



PPGCSA Events:

Chapters of Northwest Hospitality Room February 8

PPGCSA “Almost” Spring Meeting March 6 - 7

Northwest GCSA Turfgrass Expo October 16 - 17, 2017, Coeur d’Alene Resort, Coeur d’Alene, Idaho

For more events, visit ppgcsa.org

We May be 40 Years Old – But We Proved Our Cool Factor

Hallway discussion had a different tone at the Peaks & Prairies GCSA Fall Meeting. Well, at least when you actually caught someone in the hallways during this 40th Anniversary event.

This conference was cutting edge.

We went beyond the normal, the usual, and we even showed you success stories of your peers -who, by the way, exhibited great presentation skills.

Several experienced superintendents in the region mentioned they were a little skeptical of a couple of the conference topics and how they would be applicable to their own situation. For a moment, they considered not even coming to the meeting. What?

These same superintendents were the first to say that this conference rated at the top. And those who walked into the meeting on the third morning stayed to the very end – not one person “had to get on the road early.” That usually never happens.

This conference was cutting edge. It made you think. And many of you left in the end loudly chanting... “More!”

Well, not really chanting, but you have the idea.

Conference highlights are included in this issue, thanks to Clark Throssell and Blake Meentemeyer. Believe us, reading doesn’t compare to being here. But these summaries may be a good tool to share with your employer.

Chapters of Northwest Hospitality Room

The Rosen Plaza Hotel is the locale for the Chapters of the Northwest Hospitality Room, Wednesday, February 8, 2017, 6:30 – 9:30 p.m.! The prime location is conveniently located near the convention center. Attendees from regional chapters will enjoy the evening, thanks to the support of our generous partners. This evening is a great way to see old and new friends, and make important connections.

We are seeking sponsors for the event. These partners make all the difference and the evening would not be the same without their support. Please contact Lori with your pledge.



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*“Peaks & Prairies Golf Course
Superintendents Association is
dedicated to furthering the education
of our members for the betterment of
golf and its environment.”*

Inside this issue

Presidents Message	page 3
Highlights from Fall Meeting I	page 4
Highlights from Fall Meeting II	page 8
Rebuilding Bunkers at Powder Horn	page 10
One End to Another	page 14
Fall Meeting	page 16
Skin Cancer	page 18
New Members	page 22

Advertisers index

Magic Valley Bentgrass Sod	page 3
Steiner Thuesen PLLC	page 3
Midland Implement	page 4, 10, 19
Wilbur-Ellis/The Andersons	page 5
Rain Bird	page 6
Southwest Turf	page 7
Tom Roe & Sons	page 7
Oreon - Amvac	page 8
John Deere	page 9 & 23
Grigg Bros.	page 11
Growth Products	page 13
Desert Green Turf	page 14
Superior Tech Products	page 14
2M Company	page 15
Simplot Partners	page 18
Granite Peak Pump Service	page 20
Baer Design Services	page 20
Johnson Distributing	page 21
Abrasives	page 22
Amvac Environmental Products	page 22
Masek Golf Cars	page 22

President's Message

Jason Busch

The Powder Horn, Sheridan, Wyo.



It was great to see many familiar faces and meet new ones at the Fall Meeting & Trade Show in Billings. The education was great and the buzz around the trade show was as good as I can remember. Joe Stribley had

Yellowstone Country Club in great shape for the golf tournament, and fun was had by all. The highlight of the event for me was when Dan Tolson recognized his father, Don Tolson, as a "Founding Father" of our association. Dan did a great job of sharing his father's original vision for strengthening the community of golf course superintendents in our region. Don, and many others over the years, are the reason that we have such an amazing association today. Their hard work and vision continues to guide our decisions today, and for that we are extremely grateful.

The board of directors recently completed a strategic planning session to ensure that we remain focused on our mission of "furthering the education of our members for the betterment of golf and its environment." During this meeting, we formu-

lated a plan to carry our association into the future, and will be working diligently over the coming months to implement the following action items:

- Improve chapter communication and solicit feedback from membership
- Continue to strengthen relationships with allied members through an industry/vendor task group
- Increase equipment manager participation and provide opportunities for them to grow

Please feel free to reach out to any board member if you have any issues or concerns, and we will be happy to work with you towards a solution.

"The education was great and the buzz around the trade show was as good as I can remember."

Peaks & Prairies GCSA Extension/Resource Service

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The following are summaries of the Fall Meeting as highlighted by both Clark Throssell and Blake Meentemeyer. The quality of education was excellent and we encourage you to share these highlights with your employers.

HIGHLIGHTS FROM THE FALL MEETING - PART 1

Clark Throssell, Ph.D., Turfgrass R & D, Billings, Mont.



Hopefully, your irrigation system is blown out, the final snow mold fungicide application has been made and the mowers are resting comfortably for winter when you read this article. Starting with unseasonably warm weather in early March to unseasonably warm weather in early November, it seems like a long golf season that just keeps going. On the positive side, the long period of warm weather this fall has been ideal for cool season turf to recover from damage sustained this summer and being healthy heading into 2017. And, hopefully, the long golf

season has translated into a good year financially for your golf facility.

The Fall Meeting in Billings was a good one. Excellent speakers, a solid trade show, a fun afternoon of golf at Yellowstone Country Club and a fantastic seminar on Thursday morning made for one of the best Fall Meetings I have attended. I am pleased to present a few highlights from the Fall Meeting.

Understanding Winter Desiccation Injury - Bill Kreuser, Ph.D.

Bill Kreuser, Ph.D. is a turfgrass scientist at the University of Nebraska. One area of Bill's research is preventing winter desiccation. The Peaks and Prairies GCSA is helping to fund this research along with several other organizations.

- As in Montana and Wyoming, winter desiccation is a serious problem in Nebraska. Like winters in the prairie parts of our states, a winter in Nebraska is characterized by limited snow cover, sustained winds and temperatures that fluctuate every couple of weeks with lows

continued page 6




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Fall Meeting continued from page 4



from near zero or lower to 50° F or higher.

- Winter desiccation was the worst on areas exposed to the wind and anywhere thatch accumulation was a problem.
- Bill emphasized that the crown of the plant must survive for the turf grass plant to regrow in spring. Once the crown is dead, there will be no recovery.
- Research that Bill and his students have conducted show that the ideal crown moisture content is 45 – 65%. When the crown moisture content drops below 45%, winter desiccation injury is likely if the turf is exposed to cold temperatures, sunny days and wind. If the crown moisture content is above 65% in late winter/early spring, crown hydration injury is possible if there is a period of warm weather followed by a rapid drop in temperature to well below freezing. Crown hydration injury is most common on annual bluegrass (*Poa annua*) turf and in the Northeast U.S.

- There is no easy or practical way for a superintendent to measure crown moisture content. Even for scientists, it is a tedious and time consuming task to measure crown moisture.
- To prevent or reduce injury from winter desiccation on creeping bent grass turf, Bill and his students evaluated the effectiveness of an impermeable cover, a permeable cover and a thick layer of sand topdressing. Results showed that all three coverings worked well to reduce winter desiccation injury. The one caution Bill added was that when the impermeable cover was removed, the turf was green and actively growing, making it susceptible to cold temperature injury from a sudden cold snap. It is difficult to predict when a cover should be removed and the turf underneath a cover should be monitored closely at the end of



winter.

- As soon as you suspect that the grass on the green might be damaged due to winter desiccation, take several plugs of turf out of the green and bring them indoors. Place the plugs on a shallow plastic plate, water the core a little and place the plugs in a

sunny window to determine if recovery is going to occur. A hammer drill or similar tool can be used to remove plugs from a frozen green.

- Bill’s research showed that if the greens are damaged during winter, there is great value to seeding with creeping bentgrass in the spring as soon as practical. After seeding, keep all traffic off the green until the turf has fully recovered. Allowing traffic on the green, even with seeding, greatly slows the recovery of the green.
- If needed, control annual weeds that grow on the greens as they recover in spring. There are several herbicides that can be used on seedling creeping bentgrass turf.

Phytobiome – Dan Dinelli

Dan Dinelli is a golf course superintendent at North Shore Country Club in Glenview, Illinois. On top of being a superintendent, Dan is constantly challenging the “conventional” way a golf course is maintained and is always seeking a better approach. To this end, Dan has conducted numerous experiments on his golf course over the years, ranging from compost application to fairways, evaluating rootzone mixes for putting greens, evaluating cultivars of creeping bentgrass for putting greens, controlling annual bluegrass and many more.

Dan shared the findings from these projects and more in his presentations. He shared his ideas and his philosophy for growing turf. He presented his ideas and things he was trying without claiming he had all the answers. He offered his insights and shared his successes and setbacks in a manner that said, “This is



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what I am trying.” It might not be for everybody, but maybe these ideas are worth considering. His presentations challenged all of us to think differently, and, in my mind, that is always a good thing.

One topic Dan discussed in some detail was his belief that by using light, frequent topdressing, superintendents are creating ideal growing conditions for creeping bentgrass and annual bluegrass which leads to more production of organic matter, which is the major reason for topdressing in the first place. This cycle of topdressing which encourages organic matter production which leads to more topdressing comes at a considerable cost in dollars and with some unintended consequences. While Dan didn't have the answer to this dilemma, he is investigating ways to manage organic matter accumulation using other methods with the goal of reducing topdressing.

2016 in Review – Blake Meentemeyer

Blake is a regional agronomist in the Western Region for the USGA who covers Montana and Wyoming, among other states. Blake has been with the USGA for two years and prior to joining the USGA he was superintendent at Torrey Pines South in San Diego and assistant superintendent at Belair Country Club in Los Angeles.

He spoke about all the activities the Green Section is involved with, including being an information source on golf course maintenance for superintendents, green committee members and golfers, preparing golf courses for championships, agronomic and environmental research and providing course consulting services through site visits to individual golf courses. A few specific highlights I took away from Blake's presentation were:

- One problem in our region that he sees regularly is thatch accumulation in fairways. Being aware and monitoring thatch depth is a good first step in addressing the issue. If thatch is accumulating to an undesired depth, a consistent core cultivation program needs to be implemented.
- On some golf courses, a lack of turf density in fairways is a problem. In these cases, Blake encourages the superintendent to reevaluate their fertility program, paying close attention to the amount of nitrogen being applied. His observation is that some superintendents are using a nitrogen:potassium ratio that is low in nitrogen and high in potassium and the turf needs more nitrogen to grow, produce tillers and improve density.
- Blake discussed bunker liners and showed pictures of several



bunker liner products available. In his opinion, bunker liners should be considered in situations where the bunker sand used is expensive, where there is a high risk of contamination from the material below the bunker sand and where washouts are a frequent occurrence.

- In situations where Tenacity (mesotrione) is being used to selectively control creeping bentgrass in Kentucky bluegrass surrounds, the addition of Turflon (triclopyr) to the Tenacity reduces the whitening of creeping bentgrass leaves, so golfers are not concerned by patches of white turf they see while playing golf.

Moving to Superintendent – Chris Carson

Chris Carson is superintendent at Echo Lake Country Club in Westfield, New Jersey. In addition to being a superintendent, Chris teaches in the turfgrass short course at Rutgers University and teaches seminars for GCSAA. Make sure you take the time to attend one or more of Chris's classes. He is an outstanding presenter with great information to share.

In his presentation about moving from assistant superintendent to superintendent, Chris offered these thoughts (plus many more, but I am only including my highlights):

- Include the statement “What sets me apart ...” in your cover letter so your resume stands out from the other 20 to 50 resumes that are received.
- Before going to the interview ask yourself “Would you hire you? Why?” Prepare a good answer to this question before the interview.
- Be prepared to answer the question “Why are you applying for this job?”
- In the interview share your vision of what you can do and where you can take the golf course and club.
- “Is it who you know ... or who knows you?” Make an effort to get to know people in the industry. Volunteer for chapter committees and events. Introduce yourself to salespeople. Visit other courses in the area and meet the superintendent and tour the golf course with the superintendent.

Get away from work this fall and winter to spend time with your family, friends and hobbies.

Clark Throssell, Ph.D., is a turfgrass scientist and works with the turfgrass industry on technical and scientific issues. He serves as the technical resource for Peaks and Prairies GCSA members. (This article can only be reproduced with written permission of the author).

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HIGHLIGHTS FROM THE FALL MEETING - PART 2

**Blake Meentemeyer, Agronomist,
USGA Green Section, West Region**



Using Growing Degree-Day Models to Predict Plant Growth Regulator Performance

Dr. Bill Kreuser is very passionate about this area of research in which he has been working since graduate school. Dr. Kreuser continues to lead the industry in the field, helping courses better understand and utilize plant growth regulators (PGRs). Dr. Kreuser shared several important pieces of information:

- Class A and Class B PGRs inhibit the gibberellic acid pathway in different areas of the pathway.
- PGR metabolism increases with temperature.

- Rate of PGR has little impact on length of control due to half-life.
- A growing degree-day calculator and reapplication schedule are recommended and can be generated using the free app, GreenkeeperApp.com.

Results from Onsite Testing of PoaCure®

Dan Dinelli, CGCS, shared his experiences with the experimental use of PoaCure® (methiozolin) at his course (North Shore Country Club) in Chicago. Results look promising, as the industry has been seeking an effective way to eliminate Poa annua from healthy stands of creeping bentgrass for several decades. This new chemical has both pre- and post-emergence activity. Possibly the best attribute of methiozolin is that, when used in the recommended environmental conditions, it slowly eliminates annual bluegrass, allowing creeping bentgrass to creep into the voids.

Does My Turf Need Sunscreen?

According to Dr. Kreuser, UV light exposure and excessive visible light can impact plant physiology in the lab. However, understanding and exploring the effects of using pigments in field conditions is much more difficult because many of the potential benefits or negatives are dependent on the amount of sunlight in a given year. Some quick takeaways:

- Pigments can have a small impact on photochemical efficiency but can increase surface temperature by 1-6 degrees Fahrenheit in full sun.
- Pigments can help increase temperatures during spring by 3-4 degrees Fahrenheit.
- Paints and pigments actually reduce light at the canopy under shade.
- Root depth decreased when using pigments under a 70-percent shade scenario.

I hope you have found these research updates beneficial, and I want to take time to thank those who utilized the USGA Course Consulting Service this year. Your support helps fund our Education and Outreach and Research Programs. The USGA's vision for turfgrass and environmental research is to "use science as the foundation to benefit golf in the areas of turfgrass and resource management, sustainable development and environmental protection." Since 1920, the USGA has funded projects at land-grant universities across the country, providing \$40 million to improve the playing conditions and enjoyment of the game. Thanks in part to your support, Dr. Bill Kreuser currently has three research projects that are being funded by the USGA.

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Rebuilding Bunkers at The Powder Horn

Jason Busch
The Powder Horn, Sheridan, Wyo.

Like many other courses, the bunkers at The Powder Horn have been a struggle for many years. The problems with the original design are almost too long to list here, but boil down to four major issues.

- Excessively steep faces
- Inadequate internal drainage
- Sand contamination with road base during construction
- Bunkers that are too large or out of play

continued page 12



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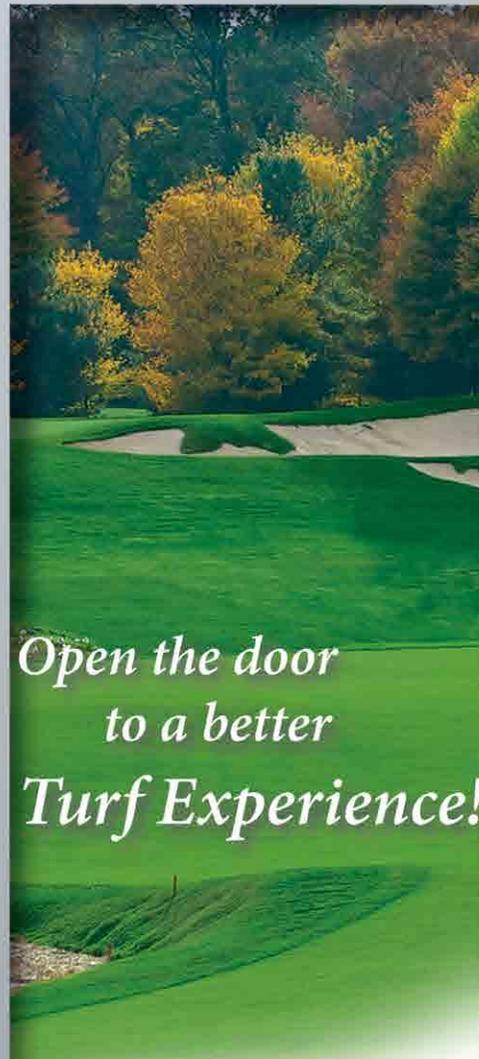
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Bunkers continued from page 10



The labor required to maintain the bunkers had grown to the point where we were spending more money on bunkers than on greens, and the players were still not happy with the results. We were set up to fail, and we could not fix the problem without major changes to the design.

In the fall of 2009, we were given the green light to begin interviewing architects to redesign the bunkers, but the economic downturn eventually put the project on the backburner before



a master plan could be completed. The bunkers continued to deteriorate further during the years that followed, and available money to spend on them shrunk considerably due to the recession.

Record floods in the spring of 2015 finally forced us to act. Nine holes of bunkers were destroyed and were going to require a complete rebuild. The other 18 holes also sustained damage, but we were able to get them back to a playable condition in a week or two.



I knew we needed to use this opportunity to correct the mistakes of the past and make changes that would last for many years to come. We consulted with architects and hired Tom Schroeder to develop a master plan for a complete renovation of all 27 holes, although we would only be working on nine holes that fall. Mr. Schroeder flew out in July and we hit the ground running, knowing we only had a month or two to finalize the plans before getting a contractor on-site.

The goals for the master plan were:

- Reduce total bunker area by 30-50%
- Improve internal drainage
- Improve surface drainage to channel water around bunkers
- Focus on strategic placement vs. aesthetic placement

Once the plans were finished, we hired Desert Reflections Golf Construction out of Arizona to complete the work. They



were a perfect fit for us and were committed to working in a situation where many changes were going to be made mid-project.

The final decisions to be made were deciding on a way to keep future sand contamination to a minimum and selecting a suitable sand to use. To accomplish this, I did a lot of research and talked to several other superintendents. With the help of Jason Aerni from Simplot Partners, I was able to tour several courses in the Denver area that had recently completed renovations and I gathered feedback on liners and sand. In the end, we decided on using Capillary Concrete as a bunker liner due to its excellent drainage and sand holding characteristics, and a sand out of Colorado sold by Simplot Partners.

To help keep the costs of the project down, we did all the

continued page 14





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Bunkers

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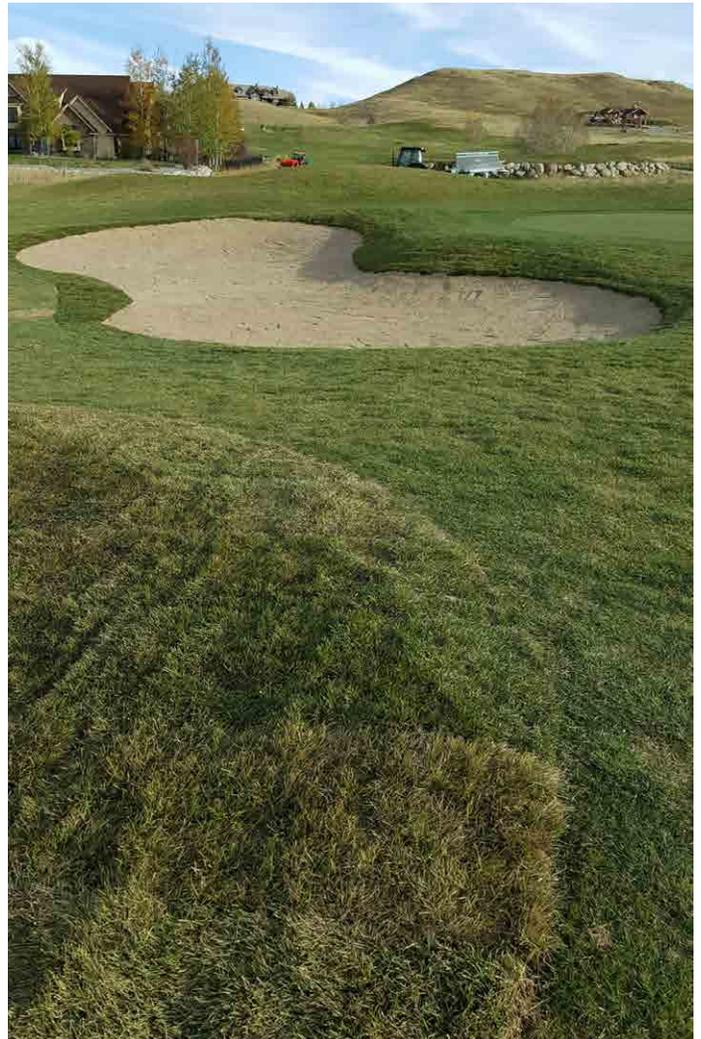
material ordering ourselves, which avoided mark-ups from the contractor, and worked with Jason Aerni from Simplot Partners to minimize the trucking costs of the bunker sand. We also devoted in-house labor to supplement the work being done by Desert Reflections.

The work began in early October and was completed in late spring of this year. Work was suspended in late November for the winter, and resumed in April. The finished product has exceeded my expectations and will provide excellent playing conditions for many years to come. We succeeded in significantly reducing labor inputs by reducing bunker area by 40%, and removing 9 bunkers. Washouts have become a thing of the past. Most importantly, our members are happy with the new bunkers.

Success in the project was a direct result of the planning and research that took place before any work began. Flexibility by all parties involved was necessary as many changes had to be made on the fly for various reasons. Our assistant superintendents, Jory Horsley and Matt Collier, contributed in many ways to the project, while managing to keep the other 18 holes

in great shape as I focused on the project.

I am excited to get to the next 18 holes now that the toughest nine is complete.





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Member Experiences...

SHEDDING SOME LIGHT ON SKIN CANCER

Sean Sullivan, CGCS
Briarwood Golf Club, Billings, Mont.

What I'm presenting are my observations and experiences after going to dermatologists for over 40 years. I'm not a doc-

tor, but information contained in this article can be confirmed with info from medical sites on the internet. Also, I have stayed at Holiday Inn Express before!

I'll be discussing four types of skin lesions, common to golf course maintenance employees, related to long term sun exposure and UV radiation. For the sake of this article, you can think of the four types of skin lesions using the three signal words for pesticides – caution, warning and danger. First is Actinic Keratosis (Caution), second and third is Basal Cell Carcinoma and Squamous Cell Carcinoma (Warning), and fourth is Melanoma (Danger). Those of us in the golf course maintenance industry are at risk of all four types of skin lesions, as two of the causes are long term sun exposure and UV radiation. These two contributing factors could be written into our job descriptions: have fun in the sun all day long! Two other factors involved are skin color and genetics, of which we don't have control. Being a fair skinned man of Irish decent, I have had three of the four types of skin lesions: Actinic Keratosis (AK), Basal Cell Carcinoma (BCC), and Squamous Cell Carcinoma (SCC). Thankfully, I have not had any Melanomas. I'm not bragging about it and not happy with the fact that I'm susceptible to them. Also, I have undergone three of the most common treatments for skin lesions/cancer.

CAUTION

Actinic Keratosis (AK) is a pre-cancerous patch of thick,

scaly, or crusty skin. These growths are more common on fair skinned people and those frequently in the sun. They usually form when the skin is damaged by UV radiation from the sun or tanning beds. As tanning beds have no relevance to the day-to-day golf maintenance operation, they will be left out of the description and/or discussion of skin cancer. AKs are considered to be pre-cancerous, but left untreated, they may turn into Squamous Cell Carcinoma (SCC). With the possibility of AKs turning into SCC, a dermatologist will usually recommend treatment for it. AKs are often felt before being seen, as their texture is rough. So, take a moment and run your fingertips over the tips of your ears, your ear lobes, temples, creases of your nose, tip of your nose, gap between your eyes, around your lips, around your neck, that "v" on your chest, forearms, back of your hands, and that bald spot on your head illuminated by the hole in your ball cap. If you wear shorts to work, check your legs as well. If you feel any rough patches, run your fingernail over those spots to see if they are scaly or flaky. Chances are those patches are AK and because they are related to sun damage; most people who have AK have more than one.

WARNING

Basal Cell Carcinoma (BCC) is the most common skin cancer and one of the most common cancers in the US. BCC has a very low metastatic risk. Metastatic Cancer is a cancer that has spread from the part of the body where it started to other parts of the body, either through the bloodstream or the lymph system. In other words, BCC is not considered to be life threatening, but can cause disfigurement by invading the surrounding tissue. BCC will typically show up as a shiny, pearly

continued page 20

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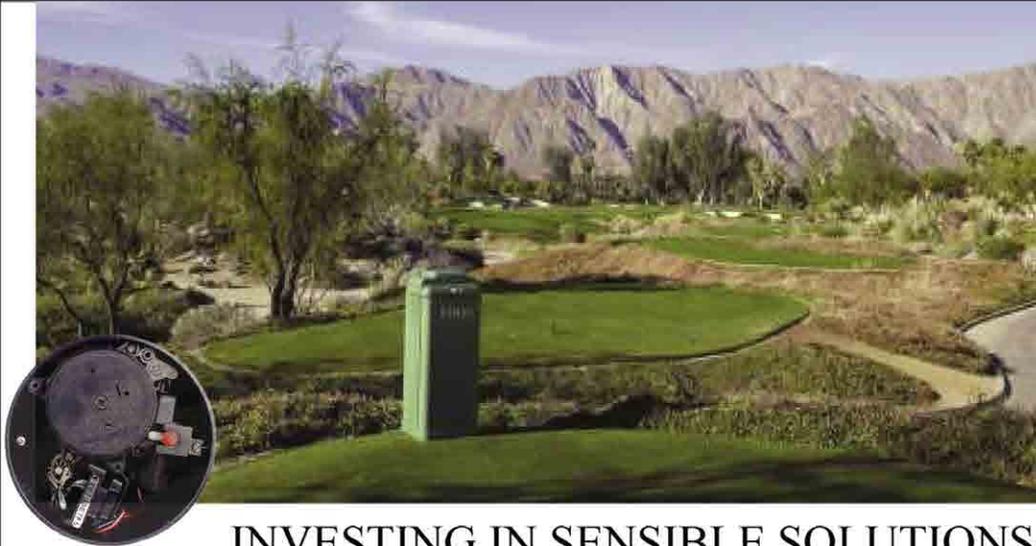
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Skin Cancer

continued from page 18

skin nodule. Also, BCC can look like a red patch similar to eczema and other forms can look like scar tissue. Which is why it is important to have regular dermatological exams. Go to the mirror, look for small red patches or bumps around your eyes, eyelids, creases of your nose, and around your lips. About two thirds of BCC occur on sun exposed areas of the body. Don't forget about that bald spot on your head that the ball cap doesn't cover! One third of BCC occurs on areas of the body that are not exposed to sunlight (typically), which suggests genetic disposition to BCC. If you see something that you don't think you had last year, be sure to point it out to a dermatologist. To determine if a suspected area is BCC, the dermatologist will do a biopsy. (A nearly painless procedure of slicing off a portion of the bump/node, which gets sent the lab for testing.) Generally, you get a nice colored bandaid and a nice bill to go with it. I had one of these under my eye next to my nose. Never thought much of the spot until the doctor started cutting! Take my word for

it, it is not one of those things you want to get bigger with age!

Squamous Cell Carcinoma (SCC) is a cancer of the squamous cell. These cells are the main part of the epidermis. SCC is one of the major forms of skin cancer, however, because it occurs in the squamous cells, you can get SCC in other parts of the body, both inside and out. But for this article, I'll be describing the SCC related to sun exposure and UV radiation. As you might have guessed, frequent exposure, to direct strong sunlight and long-term exposure both without adequate topical protection (sunscreen 30 SPF or higher), increases your risk. Those with fair skin, light hair, blue/green/grey eyes are at the highest risk of getting SCC. SCC starts to show up in people in their 50s and is common in people in their 70s. This observation adds to the point of long-term exposure and corroborates how mine started showing up. Take a moment to run your fingers over your face, head, and ears, back of neck, chest, lips, nose, and that bald spot under your hat. If you see or feel a skin lesion that is bleeding (a little) for no apparent reason or oozing something, you will want to get that checked. My SCC happened to be on the back of my neck, above the collar line. As with BCC, the dermatologist will cut out or do a punch biopsy, send it out to the lab for verification, put a bandaid on you, and give you a big bill. Maybe a lollipop if you ask! Plug biopsy is where the doctor takes a core sample, to use the green-keeper vernacular. Again, with regards to your body, bigger is not better.

DANGER

Melanoma is a type of cancer that develops from the pigment-containing cells known as melanocytes. In women, they most commonly occur on the legs while in men they occur on the back, as



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was the case with Steve Hackman, Pryor Creek Golf Club, who had a melanoma removed from the back of his shoulder. As with the other forms of skin lesions/cancers, long-term sun exposure and UV radiation is the primary cause of melanoma. Also, fair skinned people are at a greater risk than others. Make note that 25% of melanomas develop from moles. The early sign of melanoma are changes to the shape and color of existing moles. Another sign of a melanoma is a new lump that just shows up. If you are between dermatologist visits and suspect a problem, you definitely want to have the spot checked quickly. Visual inspection is the most common diagnostic technique. If the doctor suspects a problem, he/she will biopsy the suspicious lump or mole immediately. If the results are positive, you won't be leaving the doctor's office or hospital. You'll be subjected to further tests, in order to check whether the melanoma/cancer has spread to other areas of your body. That's why melanoma is so dangerous, it has the ability to metastasize quickly. As with the other forms of skin cancer, the use of sunscreen, protective clothing, broad brim hats, and anything else that reduces UV radiation damage and sun exposure is recommended. It is also rec-



ommended to avoid the sun between the hours of 9:00 am and 3:00 pm, which doesn't work out for the majority of golf course maintenance employees. So... sun-screen, protective clothing, and shade are the best options for the employees.

Over the last 40 years, I have undergone three

of the most common treatments for AKs, BCC, and SCC. The three types of treatment are cryogenic treatment (liquid nitrogen), topical chemotherapy (Fluorouracil), and Mohs surgery. The liquid nitrogen works well on the AKs, BCCs, and SCCs, as long as they are not too close to the eyes or eyelids. It pro-

duces a slight sting and kills the surface cells, good and bad. Using a scale of 1 to 10, with 10 being very easy to see and 1 being difficult to see with a magnifying glass: lesions rated 1, 2, and 3 are hard to see and often overlooked, and left to get worse. A correlation between my doctor's bill and my treatment suggests that each blast of liquid nitrogen is about \$100. The topical chemotherapy is a fancy way of saying ointment. In my experiences, the main ingredient was/is Fluorouracil and it goes by several brand names, Carac being one of them. The short of it is that the chemical affects DNA replication, so rapidly dividing cancerous cells undergo cell death. Application of the ointment twice a day for 4-6 weeks will kill all of the pre-cancerous and cancerous cells. Depending on the extent of the sun damage, treatment can leave you pretty raw for a short time. Prescription for the ointment can run anywhere from \$7-\$200 depending on your insurance. The last form of treatment is surgery. Using the Mohs procedure the BCCs, SCCs, and melanomas are cut out a little at a time. With each cut the slices are biopsied in the lab while you wait. If there are any cancerous cells in the sample, the doctor will go back and take another slice. This procedure is repeated until no cancer cells are found in the samples. In my case and with Steve's case, stitches were required to close the wounds. The idea behind this procedure is to take a minimal amount of tissue, while

continued page 22



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Skin Cancer continued from page 20

still removing the cancer. In my case, it took two cuts to remove the squamous cell cancer on my neck and one cut to remove the basal cell cancer under my eye. It's a painless procedure and done as outpatient surgery. For me, the pain part was the \$1500 per slice bill! It is my understanding that for melanomas, you will be spending time in the hospital while all the lab work is being done, just in case the cancer has spread into other parts of the body. Considering all the forms of treatment, I believe the best time for exams and any of the three forms of treatment is during the winter months. UV radiation indexes are lower in the winter months, so healing is better for the new cells. Also, during the winter months, we as greenkeepers have fewer interaction with other people/golfers/members, just in case you care about how you look to other people.

Some of the problems associated with skin cancer start when you get sunburned as a kid and accumulate throughout your lifetime. Sometimes the problems are genetic or are related to your environment. Regardless, long time sun exposure and UV radiation are the common factors in the damage to your skin, both of which are normal in the golf course maintenance industry. If you are the boss, it's your duty to protect your employees by supplying the proper PPE. Any local dermatologist will tell you what you should provide. Ultimately, it is up to the individual to protect themselves from an occupational hazard and for the employer to provide the necessary protection. Listen to me, your mother, and the dermatologist: Make sure you use sunscreen 30 SPF or higher (often), wear a broad brim hat, and protective clothing (usually long sleeve shirt and pants).






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