Turf's Up in the Inland Empire

Spring 2018

Summer Golf Outing at Galena Ridge

Join your fellow members for an opportunity to network mid-season at Galena Ridge Golf Course at Silver Mountain Resort, near Kellogg, Idaho. This beautiful mountain course opened in 2010 and offers stunning views and elevation changes to enhance a great round of golf.

Join us on July 18! Relieve your summer stress and spend time with your peers, finding out what is working – or isn't working – in the region. And, with so many activities available in the area, you don't have to be in a hurry to leave. Along with tournament registration, we will include special resort pricing.

A box lunch will be included with your registration fee. We thank golf course superintendent Geoff Haynes and Galena Ridge Golf Course for hosting our association.

Hole sponsorships will be available and appreciated! You are welcome to reserve your sponsorship now.

Treat yourself – and your employees - to this experience. Watch our email blasts for more information about registration.

William Griffith and William Johnston, PhD, Honored

As announced at the spring business meeting, the Inland Empire GCSA Board of Directors bestowed the designation of Lifetime Member of the Inland Empire GCSA to our "Bills." Griffith and Johnston have each made a lasting impact in our association and the turf industry. It was a gesture to reflect our appreciation for their past and present contributions.

Assistant Liaison to the Board

Are you an assistant superintendent interested in serving as the Assistant Liaison to the Inland Empire GCSA Board of Directors?

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Chapter Leaders Symposium

Thank you to Jeremiah Farmer, Hayden Lake Country Club, for attending the 2018 GCSAA Chapter Leaders/Executive Symposium, GCSAA, Lawrence, Kan. Read more about the event in the summer issue. *Pictured below*: Josh Benson (Idaho GCSA), David Phipps (GCSAA), Mike Kitchen, CGCS (Peaks & Prairies GCSA), Lori Russell, and Jeremiah Farmer (Inland Empire GCSA)

A publication of the Inland Empire Golf Course Superintendents Association

Inland Empire Chapter GCSAA
GOLF COURSE SUPERINTENDENTS ASSOCIATION OF AMERICA

Well, here goes nothing…

Chip Caswell, Gamble Sands, Brewster, Wash.

When I volunteered to Lori to write an article for the newsletter, I had no idea the conversation would go like this:

Chip: "What should I write about?"

Lori: "You."

Chip: "Me????" (In my most, "You cannot be serious, you have got to be kidding?" John McEnroe tone of voice.)

Lori: "Yes…you."

Well, here goes nothing…

I will turn 50 in 2018, and, as is common for many of us, this milestone has led me to reexamine my life. I am well past the midpoint of my life and professional career. Taking stock of where I am, what I have done, and where I am going or want to go, has taken on added importance and urgency for me this year. I am running out of time to be the person and professional I aspire to be!

By nature, I am an introverted, private person, and I usually don't share much about my private life with others. I have never been a very social person. I have had to struggle against my own nature my entire career to introduce myself to new people, and to be friendly to others in new situations. Think, "Eric Stratton, rush chairman. Damn glad to meet you."

I grew up in south central Pennsylvania, just north of York. My parents were public school teachers and I grew up in a house filled with books, magazines and newspapers. Reading is still one of my favorite things to do. I have a sister a year older than me, who is an attorney in Washington, DC.

I am divorced with three teenagers (Patrick 18, Catherine 16, Connor 13), who live in PA with my ex-wife. I have remarried, to Ana, a Nicaraguan whom I met while building and growing in Guacalito de la Isla, @ Mukul, on the Pacific coast of Nicaragua.

Chip Caswell

At sixteen, I spent my junior year in high school as a foreign exchange student in Brazil. That experience changed my life. I learned to speak Portuguese and found out that I was good at languages. I gained a totally new perspective on Latin America, the United States, and how our culture and country are perceived by others. I returned to Brazil five years later, and spent a year studying at The University of Sao Paulo, working on my Portuguese and traveling across Brazil. Those two years away from the USA have informed and impacted my life in ways that I am still discovering 30 years later.

I did not start playing golf until my late teens and it was not until my early 20s that I totally fell in love with the game. I practiced and became competent enough to occasionally break 100, when I realized a couple of things: I did not have enough talent to make a living playing golf, nor had I started young enough to make a living teaching the game. I was hooked and knew I wanted my life to be focused in or around golf somehow. About this same time, I read two books: *"To The* Linksland" by Michael Bamberger, and *"The Anatomy of a Golf Course"* by Tom Doak. If you love golf, and/or have an interest in golf course design, you need to read these two books.

After reading those books, I thought, 'Wouldn't it be cool to build and grow in a golf course someday? Wouldn't it be really cool to build and grow in a golf course in sand dunes, with fescue, a links golf course, just like Scotland?'

As has happened with many of us, I fell into a job for the summer on a golf course raking bunkers, walk-mowing tees, and weed-eating stream banks. I went back the next season as a crew

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Biological Control of *Poa annua* in Fairways 2017 NTA Research Report

William Johnston and Charles Golob, Dept. of Crop and Soils Sciences, WSU, Pullman, Wash.

Note: This is an abbreviated report. The complete 2017 NTA Research Report with figures, application dates, etc. is available at turf.wsu.edu (Research – Pullman; Biological Control of *Poa annua* in Fairways)

Project Background:

Elimination of *P. annua* from golf course turf has been an objective of turfgrass managers and research personnel for decades. Its elimination from golf course fairways will enhance aesthetics, playability, save money and labor, and make the game a more positive experience for golfers. The use of a biological control to achieve this objective will be proactive environmental stewardship by the turfgrass industry.

Showing promise and warranting additional research is Pseudomonas fluorescens strain D7, a deleterious rhizosphere bacteria that has been registered (EPA Reg No. 71975-U, 71975-WA-001) by Verdesian Life Sciences primarily as a biological control (herbicide) in the agricultural sector for the control of downy brome, aka cheatgrass (Bromus tectorum). D7 shows promise to provide biological control of weeds in the PNW, it was developed at WSU, has been under ongoing WSU research for over 20 years, and has been tested on numerous soils in the PNW. Anecdotal observations have indicated that D7 might have some control of annual bluegrass. However, research is needed to confirm, or dispute, the potential of D7 for the control of P. annua in turf.

Uniqueness of the study:

1. Potentially identify a biological control of P. annua.
2. A single application may provide long-term control.
3. Biological control may eliminate P. annua seed presently in the seed bank over time, which is not possible with currently available herbicides.

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Caswell continued from page 2

member, and I figured out that being a golf course superintendent was the best way that I could have my life revolve around golf. I then went back to school and earned a degree in Turfgrass Science from Penn State.

I have been a professional nomad for most of my adult life, having worked at 22 different golf facilities, in seven different states (PA, MD, NC, SC, IN, WI, and WA) and three foreign countries (Dominican Republic, Mexico, Nicaragua). Those golf courses have ranged from mom and pop public facilities that charged $35 for 18 holes and a cart on the weekend, to resort courses that charged $300 plus, to Top 10 Private. This April will mark five years for me at Gamble Sands, which is the longest I have been anywhere in my career.

I have been involved in 13 new golf course construction projects with 10 different golf course designers or architects. I have participated in nine grow ins, supervising five of those grow ins on site as golf course superintendent. I have grown bentgrass, bermuda, centipede, bahia, seashore paspalum, poa annua, ryegrass, bluegrass, and now fescue. I have never grown zoysia, kikuyu, buffalo grass, or St Augustine.

Gamble Sands was the second golf course in a row that the team of David Kidd, Casey Krahenbuhl, shapers Ernie Polverari and Luis Varela, and myself built together and grew in. This summer, another DMK Golf Design project (also constructed by Casey, Ernie, and Luis) built on sand and grassed with fescue will open: Mammoth Dunes at Sand Valley Golf Resort. A second golf course at Gamble Sands is in concept development. Almost 30 years later, my dream came true. I can say to myself, 'Yes, it was really cool to build and grow in a golf course in sand, with fescue, a links golf course'…long pause… 'Now let's build another one.'

SPRING MEETING GOLF RESULTS

1st Place 144: Brandon Bubar, Geoff Haynes. Tom Walker, Curt Chambers

2nd Place 148: Jared Whitaker, Jamie Colson, Dan Frederiksen, Randy Hayes

3rd Place 153: Dan Solais, Shawn Vetterick, Chris Varhaerghe, Mike Bednar

Closest to pin: #6 Jared Whitaker, #8 Shawn Vetterick, #14 Ron Kuhns

Biological Control continue from page 4

Research Objectives:

1) Golf course study to determine the effect of timing and rates of D7 (fall only vs. fall + spring) on *P. annua* control in a mix *P. annua*/Kentucky bluegrass fairway over several years.

2) Fairway study to determine the effect of herbicide treatments (Tenacity + Xonerate and PoaCure) to initially knock down the *P. annua* population followed by D7 applications for long-term control.

3) Evaluation of *P. fluorescens* strains, other than D7, to control *P. annua*.

Experimental Design & Methods:

Study 1 - evaluate timing and rates of D7 (D7 applied only in year 1 for *P. annua* control over 3 years. Field studies were initiated at Palouse Ridge Golf Course in late fall 2015 with applications of D7 to a Kentucky bluegrass/*P. annua* fairway.

D7 applied fall only. D7, 3 applications, was applied fall 2015 at 0, 2, 10, or 30 g/acre. PoaCure was also applied at 1.26 fl oz/1000 ft2 for a chemical treatment for comparison fall 2015. Three applications of PoaCure were made fall 2017. Plots were evaluated for *P. annua* control and turfgrass quality during 2016 and 2017.

D7 applied fall + spring. D7 was applied, 1 application, fall 2015 and spring 2016. PoaCure was applied fall 2015, 1 application, and spring 2016, 3 applications. Three applications of PoaCure were made spring 2017 and 3 applications of PoaCure were made fall 2017. Plots were evaluated for *P. annua* control and turfgrass quality during 2016 and 2017.

Study 2 – Chemical + Biological study to evaluate applications of herbicides (to initially knock back the *P. annua* population) followed by D7 applications over the top of the initial herbicide treatments. Herbicide treatments were: 1) PoaCure at 1.26 fl oz/1000 ft2 in 3 applications spring 2016, 3 applications fall 2016, and 3 applications summer 2017. 2) Tenacity (4 fl oz/1000 ft2) + Xonerate (1.4 fl oz/1000 ft2) in 3 applications fall 2016 and 3 applications summer 2017. D7 was applied at 2, 10, or 30 g/acre fall 2016 and 1, 5, or 15 fl oz/A fall 2017; note, change in D7 formulation but equivalent rates. Plots were evaluated for *P. annua* control, turfgrass quality, etc. during 2016 and 2017.

Study 3 (new objective) – evaluation of *P. fluorescens* strains (other than D7) to selectively control *P. annua*. A combination of three *P. fluorescens* strains reported to have selective control of *P. annua* were applied to a fairway and a green at the Palouse Ridge Golf Course at WSU on 11/2/17. Also, currently underway are growth chamber and greenhouse studies evaluating formulations and rates on germination and growth of six turfgrass species.

Results:

2016 (Year 1) – see 2016 Biological Control of *Poa annua* in Fairways at turf.wsu.edu

2017 (Year 2)

Study 1. D7 applied fall 2015 only.

On the final 2017 rating date, 2 years after the initial application of D7, there was no statistical differences in *P. annua* control by any D7 treatment. Kennedy, Hansen, and Stubbs had observed approximately a 50% reduction in cheatgrass, a cool-season grass with a growth habit similar to *P. annua*, 2 years following an application of D7. To date we have seen little evidence of *P. annua* control with a single fall only application of D7; however, we will continue to monitor these plots in 2018.

PoaCure numerically showed 4% less *P. annua* than the check, which indicates that the *P. annua* population was at least not increasing, as is the usual case. Three fall 2017 applications of PoaCure made were after the 9/15/17 rating date; thus, any control will not be evident till 2018.

Study 1. D7 applied fall 2015 + spring 2016.

Applying D7 in both the fall 2015 and the spring 2016 did not improve the control of *P. annua*. There was no statistical difference between any of the D7 treatments and the check.

PoaCure numerically showed 11% less *P. annua* than the check, which was better *P. annua* control than noted above in the fall 2015 only study. Johnston and Golob (2015) have noted that spring applications of PoaCure, which these plots received in 2016 and 2017, in the Pacific Northwest have not provided the

significant control of *P. annua* seen with fall applications. Three fall 2017 applications of PoaCure made in 2017 were after the 9/15/17 rating date and thus any control will not be evident till 2018.

Study 2. Chemical + Biocontrol.

Unlike study 1, the reduction in *P. annua* compared to the check by both Tenacity + Xonerate and PoaCure treatments was evident. Compared to the 5/26/16 rating (36% *P. annua,)* by fall 2017 *P. annua* in the check had increased to 56% while *P. annua* in the Tenacity + Xonerate plots had decreased to 17% and the PoaCure plots had a decrease to 22%. Thus, a reduction in *P. annua* was accomplished with chemical treatments.

D7 was applied in late fall 2016 and 2017. Although there were no D7 alone treatments in the study, based on results from study 1, to date there does not appear to be additional control of *P. annua* by D7.

As anticipated, based on previous research (Golob and Johnston, 2015), the decrease in turfgrass quality due to the Tenacity + Xonerate application in fall 2016 and summer 2017 was completely gone by 9/15/17. Tenacity + Xonerate and PoaCure treatments had turfgrass quality ratings significantly better than the check.

Study 3. (new objective) Evaluation of additional strains of *P. fluorescens*. Field and laboratory studies were initiated late 2017. Field evaluation, on a green and fairway at Palouse Ridge Golf Course, of treatments applied fall 2017 will begin spring 2018.

References:

Golob, C.T., and W.J. Johnston. 2015. Tenacity 4SC and Xonerate 70WDG in a spring-summer program for selective Poa annua control (post-emergence) in Kentucky bluegrass fairways. 2015 Washington State Weed Conference. Wenatchee, WA.

Kennedy, A.C. 2016. Pseudomonas fluorescens strains selectively suppress annual bluegrass *(Poa annua L.)*. Biological Control 103:210-217.

Kennedy, A.C., B.N. Johnson, and T.L. Stubbs. 2001. Host range of a deleterious rhizobacterium for biological control of downy brome. Weed Sci. 49(6):792-797.

Kennedy, A.C., T.L. Stubbs, and J.C. Hansen. 2011. Microbial control of cheatgrass, jointed goatrass, and medusahead. www.fwaa.org/accounts/fwaa/data_documents/60/files/10b-dl-2011-12-13_130 p_kennedy.ann.pdf.

Verdesian Life Sciences. 2016. Verdesian Life Sciences announces new biological herbicide.

Assistant Liaison Position to BOD continued from page 1

This position is important to the board as it helps to offer the perspective of our assistant superintendents.

As a liaison, we ask you to attend the two board meetings each year, which are held in conjunction with the Fall Meeting and the Spring Meeting, as well as correspond via email during board discussion throughout the year. Our assistant liaison also helps find people to help work the booth at the Spokane Golf Show. We encourage our assistant liaison to keep in touch with fellow members to offer their voice during board discussion.

Please contact Lori or a board member by October 15 to submit your name for consideration. The position will be appointed at the board meeting held in conjunction with the Fall Meeting.

We would like to offer our thanks to our assistant liaison, Jacob Teaford, Manito Country Club, for his years of outstanding service.

For more information, Assistant Liaison SOPs can be found under the Member's only tab of iegcsa.org.

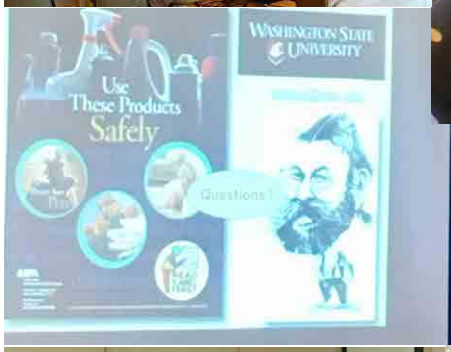
2018 GIS Chapters of the Northwest

It is a wonderful evening tradition thanks to these companies!

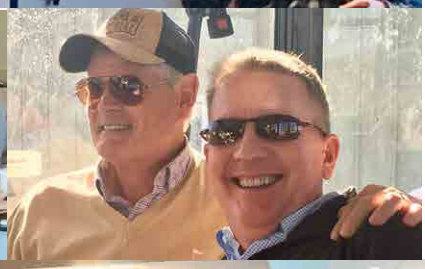
Meadow Springs Country Club was a great location for the 2018 Spring Meeting!







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The Inland Empire GCSA is established to serve members, advance the profession and promote the enjoyment of golf through responsible golf course management practices.

Thank you Mark Dalton, CGCS, and Meadow Springs Country Club