

EDUCATION REVIEW

Charles Anfield, CGCS, *Heritage Bluffs Golf Course*

60th Turf Clinic



The MAGCS Members met at Medinah Country Club for the 60th Turf Clinic and Annual Meeting. Curtis Tyrrell, CGCS MG was the host for the day. The education theme for the day was "2012, The Year that Was".



Curtis Tyrrell

Shane Conroy, Assistant Superintendent from Park Ridge Country Club was the morning moderator. He introduced a panel discussion led by Dr. Derek Settle, Director of Turfgrass Programs with the CDGA, discussing the **2012 Golf Season**. The panel consisted of Robert C. Vavrek Jr., USGA Senior Agronomist of the North Central Region, Brad Chamra, Superintendent of Hinsdale Golf Club, Scott Pavalko, Superintendent of Cog Hill Golf and Country Club and Tim Christians, Superintendent of Makray Memorial Golf Club.

Act I. Early Spring Warm Up

Dr. Settle led off with some graphs and statistics showing the 2012 annual temperatures. Data indicated that it was one of the warmest on record. The year started out with a warmer than normal winter with very little snow cover. Many courses stayed open for play. The trend continued with an unusual March, featuring nine consecutive days with temperatures in the 80's. Spring also brought unusual disease and pest outbreaks with dollar spot, patch diseases, broadleaf weeds and fairy ring. Dr. Settle estimated our spring season was a month ahead of "normal."

Scott: "It was an early start for everything. We aerified greens earlier than normal; consequently they healed in faster than normal."

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Tim Christians, Brad Chamra, Bob Vavrek and Scott Pavalko



Bob: "There seemed to be no winter kill throughout the Midwest. Golfers were happy to be out playing. The warmer temperatures created an environment for *Poa annua* to thrive and expand growth. The early season demand for playing conditions and subsequently increased labor and mowing inputs became a "budget buster" for some clubs. Weed and insect survival became problems later on requiring extra applications."

Brad: "It was my first year at Hinsdale CC and I hustled to try to keep up with the early start. We had to charge the irrigation system three weeks earlier than normal."

Tim: "We had a short staff to get the course ready for the early start. It was a lot of work and we had a lot of players out on the course. We were able to get good germination on some of our newly seeded tees."

Act II. "Booger Bear" Summer

This was Dr. Settle's label for the 2012 summer. He showed more graphs and charts depicting unusual temperatures and exceptional droughty conditions. By the end of August, we had 47 days with temperatures above 90 degrees. Fairy ring and anthracnose became chronic problems. Late June started to reveal bentgrass decline on greens. Etiolation (longer leaves) on turf plants became prevalent. Fans were very popular for helping to cool turf.


Tim: "It was tough on our new tees that had undeveloped root structures. We had 2 acres of new tee area and it was difficult to keep up."

Brad: "The collars we re-sodded became an issue. We implemented strategies to help the turf like venting, light fertilizing, fungicides and moisture meters to measure for dry spots."

Bob: "This summer was all about the hose. Many guys switched to ¾" hoses from 1" because they are just easier and lighter to move around. A lot of grass was lost in the later afternoons/early evening between 6-7 pm. Losing turf to wilt was determined in a matter of hours. We saw heat stress on turf that emulated warm season conditions on cool season turf. Due to higher than normal irrigation use, salt meters were measuring sodium and bicarbonates at unbelievable levels. Problem issues became magnified with irrigation systems running at higher frequencies. Fans and tree removal helped with poor air circulation. Shade issues during morning photosynthesis time became problematic. We are starting to see southern turf related issues creeping north. An example would be goose grass in Minnesota. If this trend continues we will see normal transition zone issues moving north in the coming years."

Scott: "I was amazed at how much golf traffic can kill turf in one day when its 100 degrees. We increased the height of cut, started syringing greens and substituted rolling for mowing to help alleviate turf stress."

Derek: "We were fortunate we got a cool weather break in mid-August. If we didn't get that drop in temperature there would have been a lot more turf loss. Water management was crucial for keeping *Poa annua* alive. Most poa plants had no roots by the middle of August. We saw some death by ammonia with type I fairy ring causing sterile soil environments."



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Act III. Fall Recovery

Projects were able to move forward. Weather data showed every month was on average warmer than in the history of recorded weather.

Scott: "Fall was kind of a blur. We were able to get the course back in shape. We moved forward on drainage projects. We definitely maximized our rounds."

Bob: "Most courses had banner years. 2012 was good for golf."

Brad: "We looked back and evaluated maintenance practices of the 2012 season. We need to set more realistic expectations."

Tim: "We are still addressing issues of out tees. We will do some tree removal and some root pruning. We will expand the size of some of our par 3 tees. Grubs became bad in the rough, the skunks and raccoons did a lot of damage."

Act IV. Q and A

Q: What was your best practice you implemented for the 2012 golf season?

Scott: "We started cutting collars at night. This is an area we have the most stress on our turf. We like the cut we get when we mow dry. We wanted to avoid the stress of mowing in the morning and then the weather getting hot."

Bob: "We have learned we can substitute rolling for mowing. Clubs started target rolling specific areas. When the turf is under stress, stop topdressing, stop using TGR's, and basically stop doing stuff. We need to not be our own worst enemy."

Tim: "Our best investment was a moisture meter. We would test sites then use the hose to water. We tried to minimize using overhead sprinklers."

Brad: "We started mowing collars at night. We would begin at 6:00 pm. Most of our problem issues were with our collars."

Q: Should carts be restricted to paths on "super-hot" days?

Scott: "We just roped off certain areas."

Bob: "I would be concerned with the liability of forcing people to walk. If it is such a concern, just close the course."

Brad: "I met with our golf professional and we considered it. We wound up just syringing fairways in the afternoons."

Tim: "We do have continuous paths but it was just not an option."

Q: Did you use ultraviolet plant protectants?

Brad: "We did use some products. We didn't see any visual difference."

Bob: "Some data we are seeing is the turf that isn't sprayed is 2-3 degrees cooler. The turf is lighter in color."

Scott: "We did use some products, but is hard to say if they worked, I would like to see more scientific evaluation on products."

Thanks to Dr. Settle for putting the panel together and those who shared their experiences with the group.



Dr. Rick Latin

Dr. Rick Latin, Professor of Plant Pathology in Botany and Plant Pathology Department at Purdue University made a presentation on "**Bacterial Wilt. Is it for Real?**"

Bacterial wilt has become a growing issue on turfgrass greens in recent past. There seems to be a lot of concern and confusion because golf courses are having difficulty diagnosing turf problems and some people believe this may be the problem. Specifically, Quail Hollow Golf Club in Charlotte, North Carolina had diagnosed isolated spots of bacterial wilt in their greens in 2009/2010 and the story has "snowballed" from there. Dr. Latin got "dragged" into the issue because of his past research on bacterial wilt on vegetables. "Not much is known about the association of bacteria on turfgrass."

To date the search for a solution has produced:

1. Lots of anecdotal information
2. Few plausible explanations
3. No real solutions

"It's been frustrating, there are no easy answers," Dr. Latin explained.

The history of the disease on bentgrass has been linked to *Acidovorax* which is different than the *Xanthomonas* bacteria found on *Poa annua*. The disease seems to occur on bentgrass which is already under stress. "Only a few labs are prepared to accurately identify bacterial pathogens on turf. No one has been able to isolate the pathogen and inoculate and replicate all systems in the field."

Chlorosis seems to be the most consistent symptom. This symptom progresses into necrosis. Sometimes it has been associated with etiolated tillers which seem to wilt. Sometimes bacterial streaming from the stem can be observed under a microscope.

How did it get into greens? Possible explanations include:

- Airborne bacteria
- Mechanical introduction: shoes, mowers, golfers equipment
- Infested seed
- Was it always there, part of the natural turf ecosystem?

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If so, why now?

- Other problems may have masked disease
- New management techniques may be creating window of opportunity for disease
- The weather has changed over the last two years

Dr. Latin explained, "The turf environment is very complex and has a very diverse microbial population. The disease has almost exclusively been reported on turf maintained at greens height. It seems to be most prevalent at very high profile courses with aggressive maintenance practices and low tolerances for cosmetic damage."

He went on to state: "We have not been successful at replicating field conditions in the lab/check plots."

Are there predisposing factors? Does heat, drought, grooming, mowing, traffic, PGR's, nitrogen stress, fungicide applications, affect disease susceptibility? Research at Quail Hollow has used various products for treatment. No results have been achieved.

"If you think you may have bacterial wilt, the best thing you can do is promote healthy roots. Good agronomy is very important," Dr. Latin said. He went on to make sure we are covering the basics:

1. Aerification in spring
2. Raise height of cut
3. Light topdressing with no dragging
4. No vertical mowing

Final thoughts by Dr. Latin on the subject, "before you do anything, get an accurate diagnosis." For further information Dr. Latin may be contacted at rlatin@purdue.edu



Steve Cook

Steve Cook, CGCS, MG who has been at Oakland Hills Country Club since 1997 presented **"When Weeds Become Hard."** This topic is related to the ongoing tree removal work and restoration of the original design playability intent at Oakland Hills as envisioned by Golf Course Architect Donald Ross.

"People become very emotionally attached to trees," Steve began. Oakland Hills was not designed to be a tree lined parkland golf course. Most of the trees were planted later on by Green Committees. Steve explained throughout his talk that these trees hide the existing natural land forms and features that Donald Ross utilized when he designed the golf course. He tactically used the existing landforms when he built the tees, green complexes and fairway landing areas. So many of the trees are non-native and considered by Steve to be "bad" trees on the property specifically Silver Maples, Honey Locusts, Willows and Colorado Blue Spruces.

Unlike Oakmont Country Club that did all of their tree removal in one massive swipe, Oakland Hills has embarked on a multi-year tree removal plan. "The whole removal process has been very slow to unfold. Tree removal needs to be justified and documented for agronomic and architectural reasons each step of the way," Steve explained. Because of this thorough documentation consisted of: shade studies, tree surveys, replacement costs and tree maintenance principals. Steve wanted to emphasize the "real cost" of trees. Not only does it cost money to plant the tree, but also the annual costs to remove leaves, seeds, branches and regular pruning.

Steve proposed a set of guidelines covering tree maintenance principals to the club. The intent was to provide future tree specification so the course does not revert back to its past ways of random tree planting. Some of those guidelines include:

1. Minimum proximity at mature canopy diameter, to adjacent tees and greens.
2. Trees will not be planted where branches at maturity will not block normal advancement of the ball toward a fairway bunker or green.
3. All future tree plantings will favor native hardwood species on proposed list.
4. Trees will only be planted in January and February.
5. Trees will not be planted where shade of mature tree will inhibit playing surfaces.

Steve has been involved in this process/program for quite a while. He is very passionate about restoring the original playability intent of the Donald Ross design which places a heavy emphasis on the ground game. He said it has required quite a bit of "sales" techniques using appropriate terminology, photography and he continue to keep members focused on restoration principals.

As you can imagine, this has been a challenging process for Steve. He has been a leader at Oakland Hills and in the industry promoting (not always popular) tree removal. I believe many more Clubs in the future will be following this trend. Original architects will continue to be recognized and courses will continue to be restored to their original playing intent of the golf ball rolling on the ground. This is good for agronomics, good for reducing costs, good for playability and most importantly, good for golf.

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Dr. Nick Christians

Dr. Nick Christians, University Professor of Horticulture at Iowa State University made the final education presentation of day, **"The Drought Effects of 2012."**

Dr. Christians (father MAGCS Member Tim Christians) started out with weather data from the summer of 2012. Some places of the country were hotter and drier than others but it was overall one of the hottest and driest summers on record.

His turfgrass management practices recommendations during a drought are:

1. Substitute rolling for mowing during periods of stress
2. Use solid rollers on mowers instead of grooved rollers
3. Minimize overhead irrigation
4. Use hoses for specific watering needs
5. Improve drainage
6. Use solid tines for venting

Some of Dr. Christian's observations during the course of the season were:

- High stress seasons are hard on new Superintendents
- Cutbacks in good years caused problems in 2012
- *Poa trivialis* was very problematic
- Perennial ryegrass did not recover well from the drought
- White grubs continued to feed until late fall
- Quackgrass, Windmillgrass and Goosegrass had a strong presence in established turf
- Dollar spot had a late surge, but otherwise low pressure for the year
- Yellow patch was present on fall seedlings
- Phosphite applications for *Pythium* prevention worked very well on older mature turf, but not so well on new seedlings. He recommended keeping *Pythium* labeled products on the shelf for a backup program
- Water shortages cause problems in certain locations. Some were severe.
- *Poa annua* has amazing recuperative ability even after drought and heavy traffic
- Water quality was a concern. Accumulated sodium became concentrated in soil systems during drought.

For further information, Dr. Christians can be reached at: nchris@iastate.edu

The MAGCS Education Committee put together another great day of education, making it 60 in a row. Thanks to all the speakers who presented, Curtis Tyrrell and staff who hosted and to the MAGCS members who continue to support the association. **-OC**

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