July 16, 2012

**Windmill Ridge Golf Course**
***Monett, Missouri***

**DATE OF VISIT: July 10th and 11th, 2012**

**PERSONS PRESENT:**
Mike Knight, Golf Course Manager
Dave Gillaspy, Golf Course Superintendent
Michael D. Vogt, CGCS, CGIA

## Overview of Greens Conditions

Upon arrival at Windmill Ridge Golf Course I made contact with Golf Course Superintendent Gillaspy and Golf Course Manager Knight.

Even after a prolonged period of high temperatures over 100° F much of the greens surfaces remain in good condition.

Several areas of green turf, mostly *Poa annua*, has succumbed to high temperature stress, most notably on #2 green and #3 green, (Photo 1). The fan behind #2 is a great idea to facilitate air movement and cooling of the turf surface, but the size of the fan is much too small for this application (red arrow, photo #1). Larger fans that oscillate and are made specifically for greens are being considered for future purchase and installation. Greens that would benefit from fans most are, #2, #6, #8, #11 and #14.

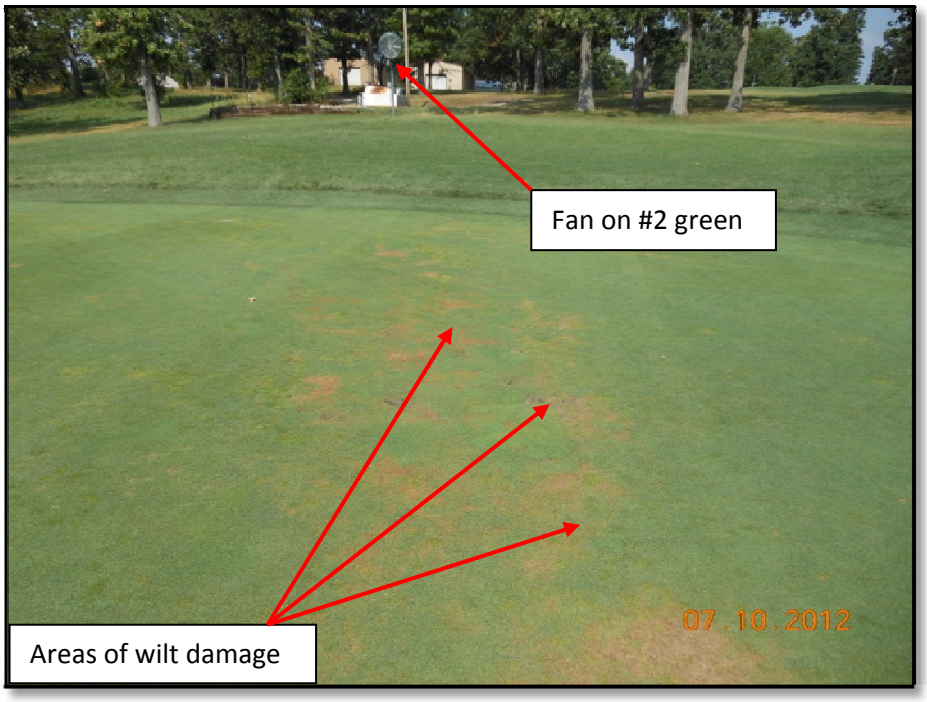



*Photo 1 #2 green, fan location and wilt damage*

*Overview of Greens (continued)*

Greens are being maintained at a height of cut of .150 or just 1/40 of an inch above 1/8 (.125) inch. They were rolling smooth and had an above average Ball Roll Distance (BRD) of above or near 7 feet on the green speed meter.

*Photo 2 New greens mower is contributing to the overall health of the greens*

## Water Management

In my past reports I stressed the practice of using overhead sprinklers only at night and applying a substantial amount of water to recharge the sand base root-zone of the greens at Windmill Ridge, on a three to four day schedule, or as evapotranspiration takes place. This strategy is working well as supplemental hand water is being applied during the day as well as water applied to keep the leave surface of the turf cool through light misting.

I also wrote in last month's report, "Daytime watering with overhead sprinklers for short run times should not be considered under any circumstance unless an overwhelming wilt situation is occurring without the required manpower to cool the greens and only until the plant regains normal turgidity." It should also be noted that Superintendent Gillaspy must also check sprinkler performance from time-to-time, which requires turning on heads to observe proper operation.

*Water Management (continued)*

Also worthy of note, June and early July, during daytime temperatures above 100°F with low humidity and steady breezes it was necessary for superintendent Gillaspy to use overhead sprinklers on several occasions to overcome a severe wilt condition. This is a judgment call and should be the superintendent's decision to make.

## Sustained Greens Recovery

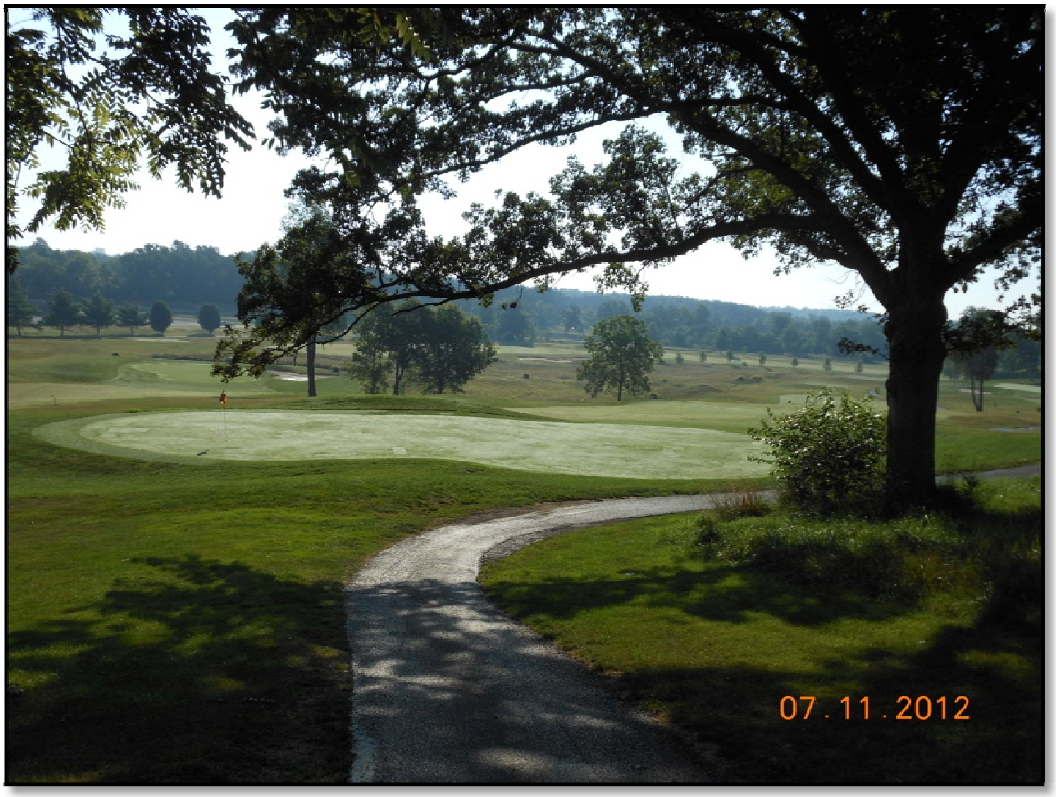



*Photo 3 Number 11green, one of the severely damaged greens last year*

Illustrated in Photo 3, number 11 was one of the most severely injured greens in 2011, by consistent sodding, rolling and topdressing it is now in better than average condition.

On the day of my visit I observed high air temperatures of 93°F and a root-zone temperature of between 86°F and 88°F at 3:00 pm. Even with high temperatures of over 100°F for over ten days, root-zone temperatures have a better ability to remain well under the daily high temperature. Even if root-zone temperatures reach into the 90°F range if on the dry side the sand will cool more rapidly than if saturated with water.

Most greens were slightly wet, mostly due to the one and one half inch of rain the weekend before my visit.

Although the season has many weeks remaining, this time last year, green turf already succumbed to summer stresses. As illustrated in Photos #3 and #4, 16 green was well over half void of turf.

*Sustained Greens Recovery (continued)*

If possible, I recommend seeding and aerification sometime during the month of September. By adding seed we will begin the process of displacing *Poa annua* that has weakened or died during this season with a desirable turf.

Also during the month of September a program of spray applications that will inhibit *Poa annua* from germination and growth should begin to give the bentgrass a competitive edge going into the fall season.

*Photo 3 #16 green July 10th of this year*

*Photo 4 #16 green in September 15th of 2011*

Very light sand topdressings should be considered based on weather conditions, if possible apply rates of sand that do not have to be brushed in, the abrasion from brushing could bruise the turf and cause damage. Also I suggest moving hole-cups more often on days of high play, the foot traffic around the cup may place stress on turf during high temperatures.

## Green Fungicide and Fertilizer Applications

In the following pages I have listed a slightly modified fungicide application schedule. To help insure optimum health during the next two months, a spray schedule that corresponds to the expected severe weather conditions will help insure maximum turf protection against disease fungi as well as supply turf with needed nutrients.

## *Green Fungicide and Fertilizer Applications (continued)*

| Date – 7/13 | Product Trade Name | Product Chemical | Rate per 1,000 ft² | Rate per Acre |
|---|---|---|---|---|
| | **Daconil Action** | *Chlorothalonil* | 3 fluid ounces | 130 fluid ounces |
| | **Stellar** | *Fluopicolide + Propamocarb HCL* | 1.2 ounces | 52 ounces |
| | **Medallion** | *Fludioxonil* | 0.3 ounces | 13 ounces |
| | **Primo MAXX** | *Trinexapac-ethyl* | 0.125 fluid ounces | 6 fluid ounces |
| | **CPR** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nutri – Rational N** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational NPK** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nurti – Rational K** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational Mg and Mn** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |

| Date – 7/23 | Product Trade Name | Product Chemical | Rate per 1,000 ft² | Rate per Acre |
|---|---|---|---|---|
| | **Daconil Action** | *Chlorothalonil* | 3 fluid ounces | 130 fluid ounces |
| | **26 / 36** | *Iprodione + Thiophanate-methyl* | 4 fluid ounces | 174 fluid ounces |
| | **Teremec SP** | *Chloroneb* | 4 ounces | 174 ounces |
| | **CPR** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nutri – Rational N** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational NPK** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nurti – Rational K** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational Mg and Mn** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |

| Date – 8/2 | Product Trade Name | Product Chemical | Rate per 1,000 ft² | Rate per Acre |
|---|---|---|---|---|
| | **Daconil Action** | *Chlorothalonil* | 3 fluid ounces | 130 fluid ounces |
| | **Insignia** | *Pyraclostrobin* | 0.9 ounces | 40 ounces |
| | **Primo MAXX** | *Trinexapac-ethyl* | 0.125 fluid ounces | 6 fluid ounces |
| | **CPR** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nutri – Rational N** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational NPK** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nurti – Rational K** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational Mg and Mn** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |

## *Green Fungicide and Fertilizer Applications (continued)*

| Date – 8/13 | Product Trade Name | Product Chemical | Rate per 1,000 ft² | Rate per Acre |
|---|---|---|---|---|
| | **Daconil Action** | *Chlorothalonil* | 3 fluid ounces | 130 fluid ounces |
| | **Subdue MAXX** | *Mefenoxam* | 1 fluid ounce | 44 fluid ounces |
| | **26 / 36** | *Iprodione + Thiophanate-methyl* | 4 fluid ounces | 174 fluid ounces |
| | **CPR** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nutri – Rational N** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational NPK** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nurti – Rational K** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational Mg and Mn** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |

| Date – 8/23 | Product Trade Name | Product Chemical | Rate per 1,000 ft² | Rate per Acre |
|---|---|---|---|---|
| | **Daconil Action** | *Chlorothalonil* | 3 fluid ounces | 130 fluid ounces |
| | **Emerald** | *Boscalid* | 0.18 fluid ounces | 28 fluid ounces |
| | **Primo MAXX** | *Trinexapac-ethyl* | 0.125 fluid ounces | 6 fluid ounces |
| | **CPR** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nutri – Rational N** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational NPK** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nurti – Rational K** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational Mg and Mn** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |

| Date – 8/31 | Product Trade Name | Product Chemical | Rate per 1,000 ft² | Rate per Acre |
|---|---|---|---|---|
| | **Daconil Action** | *Chlorothalonil* | 3 fluid ounces | 130 fluid ounces |
| | **Emerald** | *Boscalid* | 0.18 fluid ounces | 28 fluid ounces |
| | **Tourney** | *Metconazole* | 0.37 ounces | 16 ounces |
| | **CPR** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nutri – Rational N** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational NPK** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nurti – Rational K** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational Mg and Mn** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |

*Green Fungicide and Fertilizer Applications (continued)*

| Date – 9/7 | Product Trade Name | Product Chemical | Rate per 1,000 ft² | Rate per Acre |
|---|---|---|---|---|
| | **Daconil Action** | *Chlorothalonil* | 3 fluid ounces | 130 fluid ounces |
| | **26 / 36** | *Iprodione + Thiophanate-methyl* | 4 fluid ounces | 174 fluid ounces |
| | **CPR** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nutri – Rational N** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational NPK** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nurti – Rational K** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational Mg and Mn** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |

| Date – 9/21 | Product Trade Name | Product Chemical | Rate per 1,000 ft² | Rate per Acre |
|---|---|---|---|---|
| | **Daconil Action** | *Chlorothalonil* | 3 fluid ounces | 130 fluid ounces |
| | **Emerald** | *Boscalid* | 0.18 fluid ounces | 28 fluid ounces |
| | **CPR** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nutri – Rational N** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational NPK** | *Fertilizers* | 4 fluid ounces | 174 fluid ounces |
| | **Nurti – Rational K** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |
| | **Nutri – Rational Mg and Mn** | *Fertilizers* | 3 fluid ounces | 130 fluid ounces |

The greens at Windmill Ridge currently have what Superintendent Gillaspy identified last year as Seed Corn Beetle, *Stenolophus lecontei* (Chaudoir). An insecticide, Chlorpyrifos, is in stock and should be applied before this report is delivered. The ammophila wasps (*Sphecidae*) on the nursery behind #12 green will also be controlled with this insecticide.

An application of gypsum should occur if weather conditions are favorable. Look for high temperatures in the 80°F range and nightly lows in the 70°F range. Gypsum must be watered in, so take advantage of a nightly watering event and make applications as late in the day as possible (after 6:00 pm). Immediately after application a short set of water will keep the gypsum from pulling moisture from the turf leaf.

Applications of wetting agents should correspond with label directions.

Applications of granular fertilizers should correspond just prior to seeding and aerification in mid-to-late September. The spray schedule above has considered nutrients for turf through July and August.

## Conclusion

For the next 60 days a philosophy of only performing needed programs (conservative) on greens is recommended. Vertical mowing, venting, sanding and brushing should all be postponed or considered carefully before these abrasive programs are carried out. The objective is limit inputs only to necessary tasks.

As mentioned in other reports; rolling and mowing should be alternated to give the turf a chance to recover from wounds of mowing; rolling should still offer the players a good surface until the next mowing.

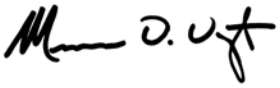
Considering all factors I believe Windmill Ridges' greens are in much better condition than last year at this time.

It must be noted that immediate season-to-season changes rarely occur in systems such as turfgrass greens. A consistent method of appropriate watering techniques, sound nutrition management and a core of good cultural programs should prove to consistently improve conditions at Windmill Ridge.

My next scheduled visit is August 8th and 9th. During this visit we will examine how the renovation schedule is progressing and make any maintenance modifications if needed. We will also plan a greens maintenance program for the next 4 weeks.

Any questions or comments, please feel free to contact me at your convenience.

Respectfully submitted,



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