

EDUCATION REVIEW

Charles Anfield, CGCS, *Heritage Bluffs Golf Course*

March Meeting

The MAGCS Members met at Arrowhead Golf Club for the March Meeting, Mike Mumper hosted the event. Dr. Mike Fidanza from Penn State was the featured speaker for the day.

Dr. Fidanza's first topic was "Update on Spray Application Technology". Lately there has been more and more scrutiny on spray applications and Dr. Fidanza did a great job of explaining why. The products are becoming more expensive and there are concerns from communities and environmental groups. It is more critical than ever to attempt to maximize product performance.

Dr. Fidanza went into depth and I thought it would be easiest to list some potential failures for disease control and opportunities to improve product performance that he discussed:

Fungicide Resistance-Tactics to Reduce the Risk

- Rotate different modes of action
- Use preventative applications
- Proper timing is important
- Avoid at risk fungicides with single site mode of action
- Alternate mode of action strategy (Vargas)
- Use research based information for products and chemistry (www.buckeyeturf.osu.edu)
- If you suspect resistance contact distributor, university, manufacturer, CDGA

Calibration – Is Your Sprayer Properly Calibrated?

- Nozzle spacing
- Boom height
- Pressure
- Nozzle type and output
- Ground speed

Application of Water Volumes

- Fairway recommendation is 1 gal/m
- Green recommendation is 2 gal/m
- Water Carrier Volume- is your spray volume appropriate for desired area and product being used?



Targeting Pathogens

- Do you have the proper product at the appropriate rate?
- Is your target foliage, roots or plant crown?
- Are you using a contact or systemic product for the correct target?

Nozzle Selection

- There are many new better types featuring some new technologies
- Change nozzles for precision applications (fungicides vs. herbicides)
- Common errors include: worn nozzles, misalignment, droplet size
- Best droplet size: medium to coarse

Other Notes

- Viscosity of solution important
- Maintain proper pressure range. Ideal range 30-60 PSI
- Avoid too large droplet size = poor coverage
- Spray carrier pH is important. Most pesticides are stable in the 4-6 range and may begin to decompose in solutions greater than 7.

Dr. Fidanza's next topic was an "Update on Fairy Ring Biology and Control". Dr. Fidanza recently wrote an article on this topic published in the USGA Green Section in March 2009.

Fairy ring is an organism in the soil. It has become an ongoing problem in turf, especially in putting greens. Symptoms usually include; mushrooms, green rings, dead unhealthy turf, drought or water stressed indications. There are three types that all colonize organic matter:

Type 1 has severe kill or injury.

Type 2 has dark green rings.

Type 3 is when mushrooms are present.

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Dr. Fidanza had some great slides of examples of fairy ring. He has found that surface venting helps disrupt fungi. There are many labeled fungicides on the market. He cited that many work and many fail and he is uncertain why. He does know that fungicides seem to work best when a surfactant is added.

Dr. Fidanza's Four Step Program for Fairy Ring

Use cultural practices to disrupt fungi in soil include spiking and venting. Keep the soil profile moist; don't allow the soil to dry out. Thatchy and low fertility areas are more prone to outbreaks or displaying symptoms.

Apply soil surfactants. Attempt to alleviate hydrophobic symptoms. Minimize wet and dry cycles. Apply surfactant, then fungicide or tank mix. Water in thoroughly.

Apply fungicide to attempt to control pathogen. 2-4 gallons of water per thousand for fungicide application is recommended. Post irrigate to move the fungicide into soil.

Repeat if necessary. This should be done on a case by case basis.

Dr. Fidanza concluded his presentations with "What Happened in 2010?"

In 2010 the abiotic type stresses were magnified. It was a lethal combination of the weather with high temperatures, high humidity, high soil temperatures and proliferation of every pest imaginable. Issues that complicated turf growth included: shade, drainage, fertility, pests, thatch, mowing injury, turf species and sometimes over management. It was one of the hottest years on record. Crabgrass took advantage of the spring rains. We had many days over 90 degrees. Optimum ranges for turf growth were exceeded.

Soil temperatures are more important than air temperatures for plant physiology; wet soil is hotter than dry soil. Short mowing heights, wet soil excessive nitrogen levels and shade became problems.

Pythium was a large factor in turf decline. Bentgrass, ryegrass, *Poa annua* and *Poa trivialis* are all very susceptible to this disease. Infection is very rapid. *Pythium* kills turf. It affects leaves, crowns and roots. Typical pathogenic conditions favor hot and humid weather. Temperatures greater than 68° at night prolonged over 14 hours are "prime" conditions for outbreaks of *Pythium*. Turf that has lush growth from excessive nitrogen applications is more prone to the disease. *Pythium* is more likely on slopes that collect water or turf areas that are slower draining.

Cultural management for *Pythium* includes: keep it dry, improve drainage, prune trees, and use fans to circulate air flow, avoid mowing wet turf and avoid excessive nitrogen applications. There are many products for control and the phosphite products are becoming more popular. Dr. Fidanza recommends making adjustments for 2011.

Dr. Derek Settle took to the podium for the final presentation of the day "Hello 2011, A Research Review".

Dr. Derek Settle, CDGA Director of Turfgrass Program, gave a brief overview of research projects ongoing at the CDGA Sunshine Course where Chris Painter is the Superintendent and Tim Sibicky is the Manager of Turfgrass Research and Internet Communications.

The majority of the turfgrass research focuses on disease control. The Sunshine Golf Course is used as an outdoor laboratory. Current trials include: turf varieties, fungicides, herbicides and established turf.

Dr. Settle reminded us that the CDGA Scouting Reports would begin soon. The Scouting Reports include data from the Sunshine Course and outpost golf courses. Derek also to reminded everyone to attend the upcoming Field Day on September 22 at the Golf House. **-OC**



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