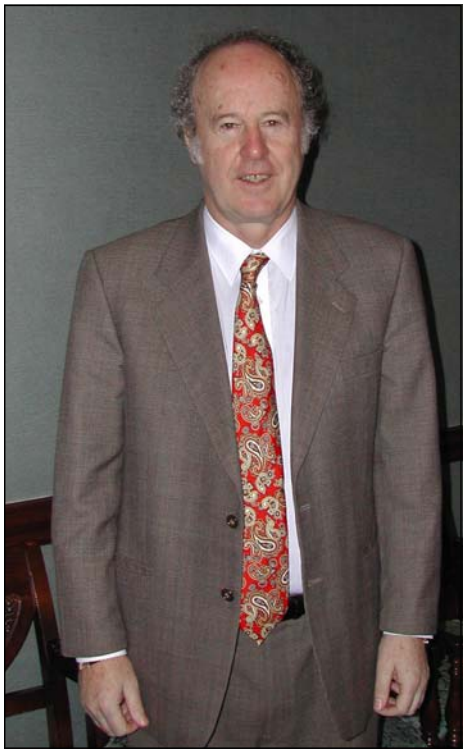
Vargas speaks on "Management Strategies for the Turfgrass Systems" at Greystone

by Blake Garrett

On January 27th the AGCSA in conjunction with the GCSAA, held a seminar on "Management Strategies for the Turfgrass Systems." Dr. J. M. Vargas was the facilitator. Various topics were discussed during the seminar including thatch accumulation, LDS, turfgrass diseases, and black layer. A large portion of Dr. Vargas power point presentation focused on disease resistance using dollar spot as an example.

Top Dressing:
Dr. Vargas began by discussing how topdressing became a common golf course management practice. In the early seventies the USGA had some turf plots they had been utilizing for research. Next to the test plots they stockpiled a large amount of sand. At the time the research was not properly funded and the USGA closed the facilities leaving everything as it was for a long period of time. While the facilities were not being used the wind dispersed the sand over half of the turf on the research plots. When the USGA came back to the research facilities they found quality turf from the winds continuous topdressing.

Eventually research has changed this common cultural practice and brought about information such as the proper angularity of the sand -- sub-angular/sub rounded which is a conducive media to use when topdressing. Applying the correct angularity of sand over time aids in producing better particle size distribution, thus producing more stability within the profile. Numerous slides were shown that revealed incorrect intervals and amounts of sand applied that resulted in various layering problems. The message conveyed was that hind sight is twenty/twenty. Always be consistent with your topdressing regime.



Dr. J. M. Vargas

Water Repellency Caused by LDS.
This is most pronounced during hot/dry weather and occurs mainly in sand-based greens or in high organic matter accumulations in thatch. The sand or thatch may be coated when organic matter decomposition occurs, producing organic acids that tend to coat the sand or thatch. This can plug the channels decreasing infiltration. Water repellency is a natural occurring phenomenon that is progressive in nature and there is no cure. To facilitate infiltration for future irrigation we use wetting agents to create channels for water. In no way are we managing or treating the repellency of the non-polar organic acid coatings.

Black Layer:
Black layer is not new and has existed in many areas for a long time. Black layer occurs when sulfur is reduced to sulfide in the form of hydrogen sulfide. The hydrogen sulfides combine with metal ions in the soil like iron, manganese, and magnesium to form the corresponding sulfide. The metal ions form a dark precipitate thus producing the black layers. Simple management strategies were discussed as follows:

- avoid applying sulfur for pH reduction
- limit the use of fertilizer that contains sulfur products
- where the soil has become anaerobic use cultural practices such as core aerification to get oxygen into the soil which is important in stopping the development of black layer

Disease Management:
Vargas was involved in a research project with rolling putting green surfaces that provided some interesting results. The test showed that rolling does not destroy soil structure and that rolling can reduce the amount of dollar spot occurrences. There is probability of resistance problems with chemicals and sclerotinia homeocarpa. Dr. Vargas explained his theory behind resistance and indicated while it can't be eliminated, the best action is to delay or possibly prevent resistance by implementing the lowest effective rate at the longest possible intervals into our fungicide programs. Resistance develops faster at higher rates and shorter intervals of fungicide use.

The curative treatment for pythium was discussed. Dr. Vargas recommended that a systemic be used previous to a contact which in this region is not a common practice. Typically a contact is used to knock down the disease and then followed up with a systemic.

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Summer Bentgrass Decline

The common causes are lack of air movement, shade, poor management practices, etc. Common cultural management practices are aerification, syringing, installation of fans, etc. Chemical management and timing was a series of strategies that Dr. Vargas presented as follows:

Signature and Fore (WP)
Signature and Daconil Ultrex
Signature and Chipco 26GT
PLUS *Heritage or Compass/can substitute with Insignia

His fungicide program suggested using plan A, B, or C in conjunction with the mesosystemics. Timing of the program begins in the cool weather of spring. Apply every two weeks until cool weather of fall.

Thank you, Dr. Vargas for your contributions to our industry and the seminar provided through GCSAA. Also, a special thanks to Tom Vlach and his staff at Greystone for exhibiting a tremendous amount of hospitality. We also owe a debt of gratitude to Melanie Bonds for helping with another successful seminar for the members of the AGCSA.