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Dan Tully, Superintendent, Michael Jordan Golf Center, Aurora

"We had a tight deadline at Harborside and Central Sod met it with quality and service."

Clay Putnam, Serriscape, Superintendents Harborside International G. C.



Harborside International G. C., under construction.



Michael Jordan Golf Center, under construction.



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#8 Hole at Broken Arrow G.C.

Dale Morrison, Superintendent

photo: Doug Davis

Member Midwest Association of Golf Course Superintendents

BioJect Follow-Up 'How Is It Going?'

(continued from page 30)

Cantigny Golf Club Fungicide Summary Through 7-31-96

	DATE	PRODUCT	RATE	DAYS	NOTES
Tees	6-12	Rubigan	1.5 oz/M	14-28	All tees
	7-2	Banner GL Daconil	1 pack/26,660 sq. ft. 2 oz/M	14-28 7-14	All tees
	7-30	Curlan	1 oz/M	21-28	All tees
Fairways	6-13	Banner GL Daconil	1 pack/20,500 sq. ft. 4 oz/M	14-28 14-21	Spot-sprayed ten fairways
	7-16	Daconil Sentenial	4 oz/M .25 oz/M	14-21 21-28	Half of all fairways treated prior to 8" of rain
	7-19	Daconil	4 oz/M	14-21	Treated other half of fairways
	7-31	Sentenial	.25 oz/M	21-28	Treated fairways sprayed with Daconil on 7-19

Cantigny had a localized outbreak of Dollar Spot during the second week of June. At this time, their BioJect System was only 50 percent functional. Scott blanket-treated all the tees and spot-sprayed the fairways. He followed this up with a chemical application to tees on 7-2. His tees have been free of disease since then. He made a preventative application of Curlan on 7-30 to keep his tees clean.

The fairways had Dollar Spot on 7-16, so he treated them with a systemic/contact mix. Only half of the fairways were treated prior to 8-1/2 inches of rain. The remaining fairways were treated with two subsequent applications following the rain. His fairways have been disease-free since 7-16.

Scott has been monitoring his fairways very closely to determine if the *Pseudomonas aureofaceans* are producing any residual or beneficial effects. He has noticed that this year, the Dollar Spot mycelium hasn't been as aggressive. It appears to be weakened. This would coincide with the idea that the Dollar Spot is being affected by the antibiotic properties of the PCA and that it is having to compete with the *Pseudomonas* for nutrients within the soil environment.

All the superintendents agreed that they were experiencing disease suppression from the use of the BioJect System. They added that they had experienced low disease pressure year to date mainly due to cool nighttime temperatures. When asked what areas they would like more information on, their first response was that they wanted some concrete means of quantifying the results they were achieving on their course. Currently, all the courses were waiting to receive tests results which would show the level of bacteria in their BioJect fermentation tank and in soil samples taken from the course. Several of the superintendents expressed a desire for EcoSoil Systems to develop a test kit which could be used in-house on a regular basis. They also expressed a desire for more information regarding the calibration of

the unit as well as application rates and timing.

For potential users, their advice was to get the BioJect System up and running as early in the season as possible. All four courses experienced delays in getting their systems on-line and working properly. In some cases,

problems with the operation of the BioJect System were found to correspond with dates of disease outbreaks on the golf course. Getting the system up and running early allows time to get the "bugs" worked out and to experiment with the calibration and timing of application. They also noted that it was important to inject the *Pseudomonas* on a nightly basis. They recommended running syringe cycles on nights when full irrigation cycles were not needed.

As with all new pieces of equipment, there is a learning process which must be completed in order to get optimum results. As one superintendent pointed out, there is more to this than what is initially indicated. Therefore, it is important to learn as much as possible about how the BioJect System works and the role that *Pseudomonas aureofaceans* plays in disease suppression within the soil environment. It seems that there are many factors involved, including proper oxygenation and temperature within the fermentation tank, availability of nutrients, proper calibration and timing, increased daily monitoring of the course for disease, and proper functioning of the entire irrigation system. All of these factors must be working properly and be synchronized in order to achieve good results. ■





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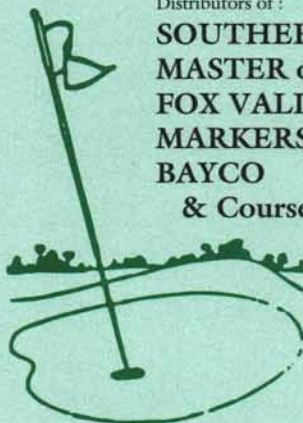
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