NORTH CENTRAL REGION 2003 YEAR IN REVIEW Bob Vavrek USGA Senior Agronomist

Relatively little snow cover and pronged periods of cold windy weather last winter provided ideal conditions for desiccation injury to turf in exposed sites at courses across the Region. Frost in the soil up to 6 feet deep was not unusual and courses located in the northernmost areas experienced frost levels exceeding 10 to 12 feet. Extensive losses of turf on playing surfaces dominated by *Poa annua* were observed at a number of courses.

As usual, courses that overseeded damaged greens and played temporary putting surfaces recovered the fastest. The golfer's unwillingness to keep traffic off damaged turf greatly prolonged the recovery process. Geotextile fabric covers did not provide consistent protection from winterkill; however, their use was helpful during the recovery process by increasing springtime soil temperatures.

Green speed continued to be an issue at nearly every course visited last season. An increasing number of courses are mowing greens at or below 0.125" and are employing management practices such as double cutting, vertical mowing, and rolling to increase green speed. As a result, moss, algae, and stress related diseases, such as basal rot anthracnose, have been observed with more frequency throughout the summer.

The golfers' often unreasonable expectations for perfect playing conditions throughout the course has forced some maintenance crews to spend nearly as much time firming and smoothing sand as they spend grooming the putting surfaces. Similarly, more time and effort is spent addressing the transient disruptions to fairways caused by ant and earthworm activity. The emerald ash borer, a pest recently introduced into the United States, has decimated green and white ash trees on golf courses in the Detroit metropolitan area. Efforts are being made to prevent the movement of this pest away from southeast Michigan.

Foreign insect pests, such as Japanese beetle and gypsy moth, continue to spread westward. Damaging populations of Japanese beetles have been documented well into western Wisconsin and even a few courses in the Minneapolis-St. Paul area have reported adults in monitoring traps. Beetles are slowly spreading north through the lower peninsula of Michigan.

Ice cover became a concern for courses in localized areas of the Region during the last few weeks of 2003. Several late December rainfall events were followed by frigid temperatures that encased turf in a thick layer of ice. Subsequent heavy snow cover has prevented the ice from melting. *Poa annua* playing surfaces have a good chance of sustaining injury if ice remains intact until spring. Consequently, some superintendents have made an extra effort to remove snow and either remove the ice or apply a darkening agent to the ice to facilitate melting on sunny days. Fortunately, most courses have ice-free surfaces protected by nearly a foot of snow during the extended periods of sub-zero temperatures this winter.