

F11-P

EVALUATION OF GOLF TURF MANAGEMENT SYSTEMS WITH REDUCED CHEMICAL PESTICIDE INPUTS

*Jennifer A. Grant¹ and Frank S. Rossi²

¹New York State IPM Program, Cornell University, NYSAES, Geneva, NY, USA

²Department of Horticulture, Cornell University, Plant Science Bldg., Ithaca, NY, USA

We designed this project to provide information on the feasibility and performance of golf course turf managed with few or no chemical pesticides. The project is located at one of the 5 golf courses at the Bethpage State Park, Long Island, NY, and is funded by the USGA. Current golf course pest management practices ("unrestricted") are compared with IPM and non-chemical management. Further comparisons are made between standard cultural practices and "alternative" practices that we believe will reduce turfgrass stress and thereby minimize pest problems. Total management systems, as practiced by turf managers are imposed, rather than focusing on individual technologies and isolated practices. Two years of a three-year project have been completed.

Systems were evaluated for multiple quality, pest, aesthetic and functional performance measures. Reductions of pesticide applications on the IPM greens ranged from 27-46% as compared to unrestricted greens. Further reductions are expected in 2003 with the use of an injection sprayer that will facilitate spot and custom pesticide applications. Non-chemical greens have been maintained without chemical pesticides for two years, but quality was unacceptable for portions of both years. In 2002, alternative cultural management greens in all pest management treatments had higher quality and fewer pesticide applications than their counterparts. Three non-chemical greens were renovated to velvet bentgrass after the first season, and maintained superior quality and fewer pest problems than their standard culture, creeping bentgrass/poa annua counterparts.