



## Underground Greens Aeration

*J. M. Vargas Jr, P. E. Rieke, Tom Nikolai, and A. R. Detweiler  
Crop and Soil Sciences*

Core aeration of golf greens has been practiced for many years as a means of relieving compaction and providing pore space for oxygen diffusion into the soil. The importance of oxygen for proper root growth has been known for many years. All one has to do is look at the excellent root growth in a coring hole compared to the rest of the green to know the importance of aeration.

Ideally, aeration should probably be done once a week or at least once a month. The problem is the interference with play that the process of aeration causes, as well, as the disruption of the putting surface. If a system could be developed to supply oxygen to the root zone without interfering with play or disrupting the putting surface, would better rooting occur? Would it eliminate the need for core aeration? This study is set up to answer these questions.

This system was developed by Alex Rohoza of Pennsylvania. It consists of the placement of 4 inch pipe in the choker layer of a USGA green. Ideally, if installed at the time of construction, the pipes would be applied in the drainage or pea stone layer. The 4 inch pipes have 1/4 holes in them through which air is blown every day or every other day for 1/2 hour. We are currently using a 7 horsepower leaf blower with a capacity of about 2000 cubic feet of air/minute. This network is divided into six separate zones which can be aerated on various schedules through the use of zone valves. We hope to automate the system in the future.

These tests will evaluate root depth and turfgrass quality of the underground system compared to conventional aeration.