

It Was a Long Time Coming

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THE MOST significant management tool I observed this year really is the result of work accomplished last season. It just took until this year to see the effects. What was it? Deep aeration of greens.

Since the first putting greens were mechanically aerated, golf course superintendents have wanted machines capable of aerating ever more deeply. There always seemed to be one more soil layer or one more zone of compaction beyond the reach of the current aerator tines. Some superintendents even used hand soil probes or power augers to aerate problem greens. Although a slow and laborious job, deep hand aeration was effective. Now, new machines have been developed.

The two currently available deep soil aerators are the Floyd-McKay drill type and the Verti-Drain plunger type. Richard Christian, superintendent at Pine Valley Golf Club, in Pine Valley, New Jersey, has recently subjected his famous old putting greens to deep mechanical cultivation with hollow aeration tines. He then removed the soil cores and filled the open aeration holes with a modified topdressing material. This is not easy to do, but deep aeration has helped Pine Valley survive a particularly difficult summer stress season.

It stands to reason, the deeper a poor soil is aerated, the more beneficial it will be for turfgrass growth. It is well understood that if compacted or layered soils extend deep into the profile, deep coring will improve air and water movement. A hard pan layer is known to form below the penetration depth of aeration equipment. This zone of compaction, usually found about three inches below the surface, was confirmed in recent research by Dr. Paul Rieke, of Michigan State University. Many superintendents had suspected this was the case for some time, and they could often actually feel the compacted zone as they probed their greens. While it is true that deep aeration will not completely cure a terrible soil problem, it is equally true that any improved movement of air and water through a soil profile will have a positive effect on the growth of the grass and on the soil in question.



(Top) Floyd-McKay drill aerator, 1987.

(Above) Verti-Drain deep tine aerator, 1987.

It is important to add that deep aeration is not a substitute for shallow aeration, or that deep aeration is a substitute for proper putting green construction and management. On the contrary, deep aeration should be looked upon for what it is — a new and useful management option available to solve problems deep in the soil. It was a long time coming.

A number of other superintendents work with deep putting green aeration techniques. Bob Farren, of Sleepy Hollow Country Club, in Hurricane,

West Virginia; Pat Gertner and Rick Christian, at Pine Valley; Earl Shafer and Donnie Ruffat, at The DuPont Country Club, in Delaware; Dave Miller, of Saucon Valley Country Club, in Bethlehem, Pennsylvania; Don Tallman, of Green Valley Country Club, in Lafayette Hill, Pennsylvania; Roy Hourigan, of Harmony Landing Country Club, in Goshen, Kentucky; and Johnny Burns, of Charlotte Country Club, in Charlotte, North Carolina. Their progressive attitudes made this presentation possible. Deep aeration of putting greens works.