

Yarn # 5 July/August
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Do we really need to aerify?

During the course of a year as I travel to different golf courses both in this country and in other countries I am asked the same question over and over. DO WE REALLY NEED TO AERIFY? In the last issue of the Boardroom [May –June] I attempted to explain how organic material is deposited in our root zone by the root system, and how this organic material if not managed properly could seal off our greens and cause the turf to stress due to a lack of oxygen. Organic material deposited in the root zone by the root system is the number one cause of green failure. Aerifying using hollow tine cores removes organic material and is the most widely used method to control organic levels.

In years past every superintendent who has ever had to make the decision of how many times to aerify in a year based his decision in no small part on the amount of outrage expressed by the members and the different boards and committees he or she had to answer too. General Managers and Directors of Golf were placed in a very awkward position when a member would ask the questions. Do we really need to aerify? Are we aerifying too often and why does it take the holes so long to heal?

Every person who has ever had to make the decision about aerifying has had to ask himself or herself the following questions:

1. How often **should** I aerify? [Not can but should]
2. How deep should I go?
3. What size tines should I use
4. What should my spacing be between the tines?
5. Should I use Hollow or Solid tines?
6. Should I fill the holes or leave them open?
7. If I fill the holes what should I fill them with? [287]

Until we know what we have in our greens in regards to the physical properties of the greens mix we cannot answer any of the above questions. Once we know what we are trying to manage, the questions answer themselves. Once we know what is below the surface of our greens, we can answer our members' questions with facts based on science and put into place programs that best suit the needs of our members ***and*** our greens.

Once we know what we have to deal with we can stop talking about aerification and start talking about what is really important and that is **displacement**. How much material do I need to remove each year to get my greens from where they are now to where they need to be or if they are in excellent condition how much material do I need to remove to keep them in excellent condition. The days of subjective guessing are as dead as cloth golf balls and wooden shafted clubs, however most golf courses still base their maintenance programs on the number of aerifications and not on displacement of material. What a tremendous waste of resources. [508]

A few years ago a very good friend of mine who was the head agronomist for over a hundred courses ask me how much more material we removed/displaced using 1" hollow tines vs. 1/2" hollow tines vs. 1/4" hollow tines and I couldn't give him an answer. When I started to study the displacement amounts I was stunned to learn that we displaced the same amount of material, 3.14% with each of the different tine sizes. At that time most of the aerifying equipment we had available to us did not have variable spacing like we have today. When we aerified with 1/4" tines we were on 1.25" centers. When we aerified with 1/2" tines our spacing between tine holes increased to 2.5" and when we went to 1" tines our spacing increased to 5" spacing. The displacement for each tine stayed the same, and as a result we were no more effective with the larger 1" tines than we were with the smaller 1/4" tines. All the one inch tines accomplished over the quarter inch tines was to anger everyone who played golf and have a negative effect on our cash flow.

Our original work showed that most greens needed to have a displacement of around 20% to keep up with the organic production of the plant and this number was later verified and published by the USGA Green Section.

The amount of annual displacement that a green needs is dependent on many factors. Green type [USGA sand based or push-up] Turf type [New grasses or older varieties], and quality of water are some of the more important factors determining the amount of organic that needs to be displaced on an annual basis.

Next article: **How to customize a displacement program for your greens.** [802]

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