Hollow coring – should it be a necessary evil?

Ed Pettit is a Managing Director of the Maintenance Division at Carr Golf, providers of agronomy and course maintenance solutions to 17 golf courses throughout Ireland. Here he discusses many golfers' worst nightmare, hollow cored greens, and why we put our courses through it.

It's that time of year, when golfers across the country unite in their frustration of having to putt on hollow cored or 'pole-forked' greens. Commercially it can be a costly period for golf clubs, with green fee revenue and member rounds impacted as golfers hunt elsewhere for better putting surfaces. So why do turf managers hollow core greens and is it really necessary?

Hollow coring is a form of aeration, defined as mechanical treatment that sustains or increases the air space within the soil profile. Whilst all areas across a course benefit from aeration, including rough, fairways, tees, collars and approaches, it's on the greens where a golfer's experience is most disrupted in the pursuit of fast, firm, true and smooth surfaces. Not all aeration techniques cause major disruption on surface performance. In the case of hollow coring, golfers dread it.

Why aerate?

1. Relieve compaction
2. Improve drainage
3. Improve root development
4. Promote healthy and strong grass growth
5. Reduce and prevent the accumulation of thatch and organic matter content

Types of aeration

- Hollow coring
- Solid tining
- Deep tine aeration
- Air injection
- Sand inject graden
- Verti-draining
- Slitting

Hollow coring aims to remove material from the existing soil profile, replacing it with sand in the channels created. Typically, tines used for hollow coring are ½" (12.5mm) or 5/8" (15.6mm) in width and while the distance between tines can vary from 38mm – 76mm, 50mm intervals are usually the norm to create an even pattern. Core depth can be set up to 100mm. Ejected cores are removed from the green before sand is applied to fill the holes. Recovery can range from 2-4 weeks depending on time of year and growth levels.

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Turf managers have traditionally hollow cored as a primary form of aeration during spring and autumn due to limitations in tools available to them. Thankfully, modern equipment now provides the option of less disruptive aeration programmes during peak playing seasons. Aeration should be viewed as a package of treatments and a programme of interventions planned and implemented to the needs of a course, and should incorporate scarification and top dressing.

Factors to consider when designing an aeration programme

- Soil types and grass types
- Golf round volumes per annum
- Thatch and organic matter levels in greens
- Iron pans or evidence of mid layer compaction
- Surface tension issues
- Infiltration rates at different depths

Should hollow coring always form part of a course's aeration programme? Only if the course requires it. If there is evidence of significant surface compaction; if organic matter levels exceed 6% in the top 20mm of the soil profile or >4% beneath that; if there is no regular top-dressing programme, then certainly hollow coring should be considered. It should not be included just because it's in the annual calendar and has always been done.

There is no question that hollow coring can be an important component of a programme designed to improve putting surface speed, firmness, smoothness and trueness. Despite the disruption caused and the commercial impact, the returns can be significant. Its inclusion should only be based on need however, and not tradition.

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