

Core Cultivation: Timing is Everything

Understanding the risks of coring at non-traditional times.

BY ADAM MOELLER



Scheduling core cultivation can be very challenging. Understanding the risks associated with coring at non-traditional times helps course officials make the best choice.

Core cultivation is a great way to rejuvenate putting greens, improve long-term turf performance, and maintain adequate drainage and soil oxygen levels. The short list of benefits associated with coring includes: rootzone modification, thatch management, improved gas exchange, increased drainage and rooting, compaction relief, and alleviation of rootzone layering. There are traditional windows of activity for coring putting greens, but

superintendents and course officials have pulled the coring schedule earlier and pushed it well beyond the traditional dates over the past decade in response to the demand for flawless conditions throughout the season. This article will focus on the potential agronomic impacts of coring in non-traditional time periods.

Golfers are concerned about surface characteristics (i.e., smoothness, firmness, and overall consistency) and are

generally apathetic toward turf health and sound agronomic programs . . . until it impacts their golf game. Coring, regardless of when it is performed, is viewed as an annoyance by golfers because of disruption to surface conditions. Traditional coring times in the Northeast Region have been between late April and early/mid-May and between late August and early September each year. Coring during periods of active shoot growth and

moderate temperatures associated with late spring and late summer/early fall usually results in a short recovery time with minimal injury to turf. These time frames, however, often conflict with busy golfing calendars and stimulate golfer annoyance/aggravation.

In an attempt to minimize golfer complaints, some facilities are choosing

annua encroachment, which is very undesirable because it is intolerant of biotic (diseases, insects) and abiotic (temperature extremes, drought, traffic) stresses compared to creeping bentgrass. Desiccation injury is also more likely to occur because plant roots and crowns are exposed to more direct wind, despite being completely backfilled

ated with coring is unwelcomed by golfers, regardless of when it is performed. The biggest risks associated with coring outside the “ideal” time frames include 1) turf injury from coring in stressful weather, 2) an extended recovery time from coring when the turf is not actively growing, 3) an increased likelihood for annual-type

The biggest risks associated with coring at non-traditional times include:

1. Turf injury from coring in stressful weather
2. An extended recovery time from coring when the turf is not actively growing
3. An increased likelihood for annual-type *Poa annua* invasion
4. Desiccation injury

non-traditional dates in October, November, December, March, and early/mid-August for coring their greens. A few golf courses have gone as far as coring in the middle of the night in late July/early August in an attempt to maximize efficiency, minimize recovery time, and reduce plant stress caused by hot weather during the day!

Weather patterns and soil temperature have a large effect on recovery following coring and sand topdressing. Coring in March, for example, when soil temperatures are low, often yields a very long recovery time because growth is minimal compared to mid/late May.

Coring of dormant or soon-to-be-dormant turf in late fall usually results in the holes remaining open until turf growth resumes the following spring. Golfer activity might be low from October through April, and thus holes remaining open for that duration may be tolerable. Greens with open cultivation holes over the fall and winter, however, are prone to annual-type *Poa*

with topdressing sand. Open cultivation holes during winter also will increase drainage into the rootzone, but the deeper profile will likely be frozen, leading to saturated conditions in early spring.

Early/mid-August coring is advantageous at many facilities because soil temperatures are warm and the turf recovers rapidly. Coring during hot weather, however, can cause serious mechanical injury and stimulate turf diseases that thrive on plant stress. Obviously, weather is highly variable, and in some years the greens might be free of injury, while in other years they can be damaged. Golfers’ memories often are very selective when it comes to coring and the associated recovery. For instance, from year to year there can be good weather in mid-August and the turf flourishes, and in the following year the weather is poor and the turf declines.

Golfer annoyance should be considered, but it must not dictate agronomic practices. The surface disruption associ-

Poa annua invasion, and 4) desiccation injury. Short-term problems, including mechanical injury from coring during hot weather, are easy to identify, but ensuring the availability of a backup date may be the only adjustment needed for the coring program. Long-term effects of coring in non-traditional times may be less noticeable to golfers, but these changes could be more problematic overall and need to be considered.

In some instances, the benefit of avoiding disruption to the golf calendar by coring in non-traditional times outweighs the potential risks. Thorough communication of the inherent risks of coring in non-traditional times with course decision makers is essential when planning for coring the putting greens at your facility. The traditional times, however, continue to provide maximum agronomic benefit with minimal concerns.

ADAM MOELLER is an agronomist in the Green Section’s Northeast Region.