

heavier ones made after aerification. Ideally, during the growing season, topdressing should be made about every 2 1/2 to 3 weeks at the rate of approximately 1/8 cubic yard per 1000 sq.ft. These light applications, especially when using dry topdressing material, do not need to be dragged in, but instead can be broomed in or even watered in with the irrigation system.

As mentioned earlier, it takes approximately 8 days after topdressing for these benefits in terms of increased putting speed to be fully recognized. Therefore, it is recommended that a light topdressing of 2 to 4 cubic yards be applied per 5000 square feet of the green between 8 and 14 days prior to the tournament to optimize putting speed. This topdressing should be incorporated by matting the soil immediately after applying it by dragging a brush, piece of carpet or chain link fence over the surface in several directions.

Brushing and combing

Brushing one to three times per week during the growing season with steel bristled putting green brushes encourages vertical growth which produces a cleaner mowing pattern and reduces grain from lateral growth. Combing is practiced in much the same manner and frequency as brushing.

Water management

A key to any intensively managed turf such as a putting green or athletic field is having total control over soil water content. Excess water is often applied to greens in an attempt to soften the soil to hold the approaching golfer's shot, but like excess nitrogen, wet soils slows ball roll, thus, reduces the green's putting speed. Turf managers should attempt to maintain a "soft" green by aggressive aerification accompanied by judicious watering and not topdressing exclusively with pure sand. Superintendents should water heavily to wet the entire root zone and not water lightly on a daily basis. Letting the soil dry between waterings will help maintain desirable putting speed.

Summary

The following sequence of agronomic events prior to a tournament is suggested to provide acceptable putting surfaces in terms of uniformity, density, and speed. If all of these are incorporated into a total management practice package, putting characteristics should be acceptable for the majority of participants.

Six weeks prior to the tournament. Fertilize with a 3-1-2 ratio fertilizer at the rate of 1 lb actual nitrogen per 1000 square feet. This fertilization will strengthen the bermudagrass for the upcoming aerification and aid recuperation.

One month prior to the tournament. Core aerify with relatively small (e.g., $\leq 3/8$ inch) tines when the green has adequate moisture to minimize damage to the putting surface. Aerification is needed when greens are considered hard and do not hold approaching shots well or if the greens are not allowing water to percolate internally or if localized dry spots are developing. If these problems are not present, then core aerification can be skipped at this time. However, a minimum of one month will be required for the bermudagrass to recover and fill in the hole left from coring. Individual cores should be removed following aerification. The exception to this is when a desirable soil mixture is currently present. The cores in this case should be incorporated back into the profile by lightly verticutting or dragging with a brush or piece of carpet or chain-link fence.

Following aerification, the greens should be topdressed with a medium rate of desirable, clean soil. Four to six cubic yards of material per 5000 square feet of green surface should provide a medium topdressing rate. This should be immediately incorporated by dragging. Care must be taken during this process as not to allow excessive desiccation or turf damage to occur. Irrigate heavily following aerification to help prevent exposed roots from drying.

One week following aerification, greens should receive the equivalent of 1 lb actual nitrogen per 1000 square feet as a quick release nitrogen source (e.g., ammonium sulfate or ammonium nitrate). Rapid release nitrogen will aid in recovery of aerifying holes and be timed in advance of the tournament so excessive growth associated with nitrogen fertilization will have subsided.

Two weeks prior to the tournament. All nitrogen fertilization should be completed by this time. If not, the grass will be growing too aggressively by tournament time, and consequently, the putting speed will be disappointingly reduced.

The greens should also be lightly vertical mowed in two directions at this time. Vertical mowing