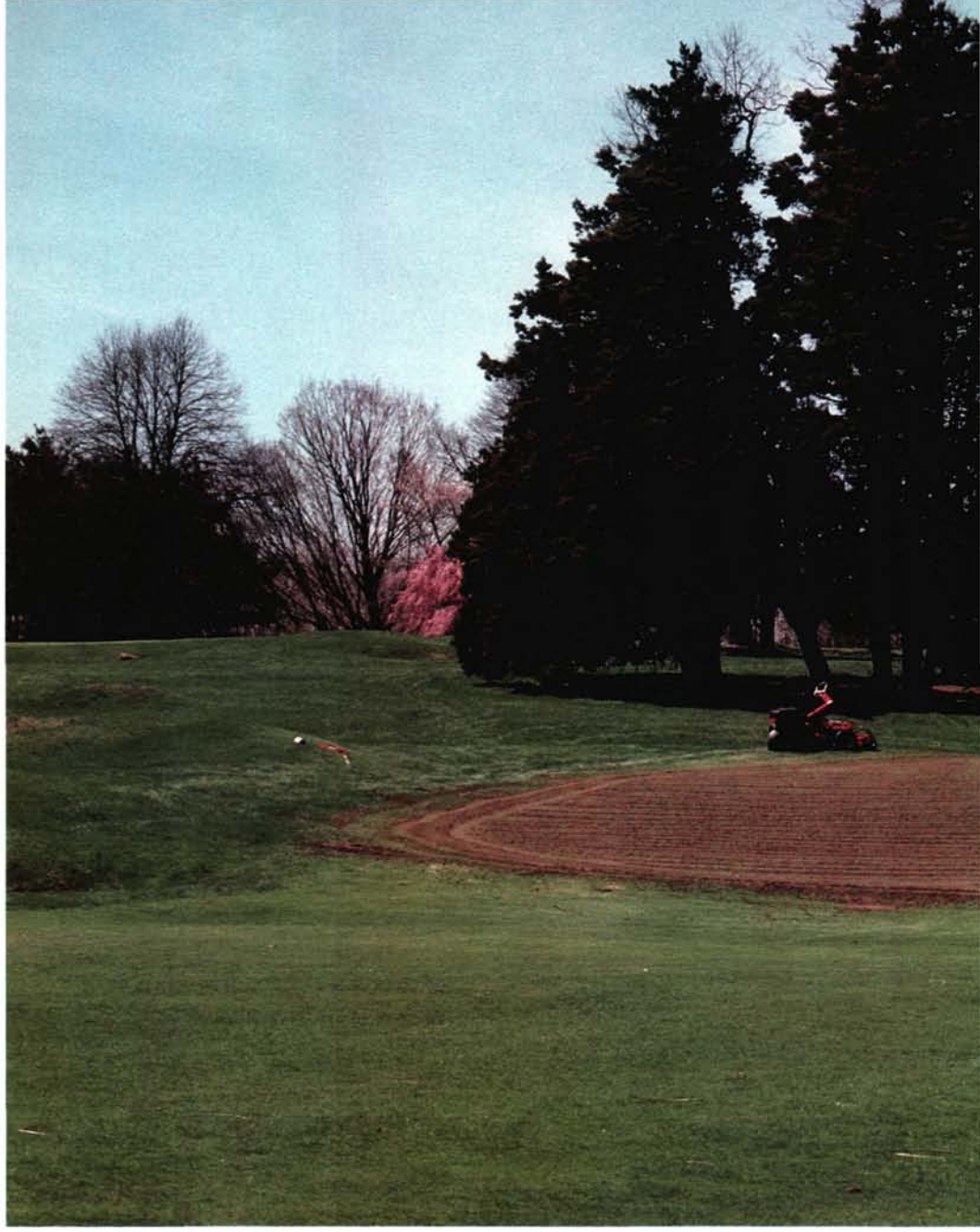

Early April topdressing smooths the putting surface, improving playing conditions at the Hollywood Golf Club, New Jersey.

Early Spring Greenup – Don't Push It

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OF THE VARIOUS concerns expressed by golfers in northern climates, few are more perennial than the one about early spring greenup and growth of putting greens. The first few days of warm weather, after a long winter's layoff, prime the juices in many golfers' systems; they believe the golf course turf should be as ready-to-go as they are. Anticipating lush, green grass and mid-season play, they rush to the golf course in the early spring only to find semi-dormant, off-color putting green turf.

The problem is compounded because, at the same time, Kentucky bluegrass and perennial ryegrass turfs are showing deep green color and producing marvelous growth. The fact is that bentgrass (or bentgrass/*Poa annua*) turf simply takes longer to reach its optimum growth rate in the spring, and no amount of coaxing will change this to a significant degree. In spite of what may seem to be warm air temperatures, normal growth will not resume until soil temperatures have increased to the point where root uptake has been stimulated.

There is a common misconception that early spring fertilization and irrigation is the best means of overcoming cold soil temperatures and encouraging spring greenup and growth. In fact, volumes could be written citing examples of golf course greens which have been heavily fertilized and watered in an effort to force growth during the spring, only to have turf areas die out during June, July and August because they have been overstimulated. Some of the fertilizer applied during March and April becomes available only during

May and June, causing a spurt of growth which makes the greens slow, lush and susceptible to wear injury, disease and wilting. The root systems, inhibited by excessive fertilization and irrigation, are usually shallow and weak by June and unable to support the turf during the hot summer. In the final analysis, early spring fertilization and irrigation cause more problems than they solve.

What Can Be Done?

Obviously, knowing what should *not* be done to bring the greens into good form in the spring does not resolve golfers' complaints about off-color, bumpy turf. Fortunately, a number of practices can stimulate spring color in a positive way and produce a smooth, true putting surface during the early spring, when topgrowth may be negligible.

For many years, fertilizing turfgrasses after September was considered risky. There was fear that stimulating growth with nitrogen just before the onset of cold weather would cause the turf to be susceptible to winter damage. Research during the past decade has not been able to substantiate this concern, and late fall fertilization has been of great benefit in some areas. Root growth, turf density, recuperative capacity, and spring greenup and growth are all improved with late fall fertilization. A good rule of thumb for timing such applications is to put the fertilizer down just after the turf has been mowed for the last time, when topgrowth has ceased, but before the ground is frozen. At that time of the year, root growth and nutrient uptake will continue until the ground freezes. Those nitrogen sources requiring microbial activity for nitrogen release are not as effective as the more soluble materials during the cooler months. On greens, therefore, rates of fertilization should not exceed ½-lb. N/1000 sq. ft. for soluble sources and 1-lb. N/1000 sq. ft. for slow-release sources.

Over the years, many northern golf courses have remained open during the winter, allowing play whenever golfers have elected to brave the elements. Unfortunately, a significant amount of winter play will have a very negative

Pine needle mulch maintains green color and prevents winter desiccation at the Lexington Golf Club, Massachusetts.

effect on putting green turf; it is not recommended. Because of the wear injury caused by walking with spikes over frozen grass and the compaction caused by allowing traffic on saturated soils during winter thaws, it may take weeks or months longer to bring greens into top shape. If the golf course is to be left open during the winter, it is best to establish temporary greens during the fall to be used until the following spring. If this is not possible, then, at the very minimum, request that golfers wear spikeless shoes for winter play.

Occasionally, greens are mulched for the winter with pine needles, pine boughs or some other non-compacting material. Several inches of mulch is placed over the turf in late fall and removed or thinned when air temperatures begin to climb above freezing in late winter. Care must be taken to remove the mulch early enough to avoid smothering the turf. The practice of mulching greens is generally not recommended, but can be tried on problem greens or in areas where desiccation is often a problem.

Another technique that is used sometimes involves placing sheets of clear, ventilated plastic over the greens during early spring. The plastic acts as a greenhouse, artificially warming the air and soil in the vicinity of the turf and promoting earlier greenup and growth. Again, care must be taken to remove the plastic if the air temperature becomes too high during the day.

As already noted, heavy fertilization and frequent irrigation of greens should be avoided during the spring. Too much fertilizer inhibits root development, encourages *Poa annua* establishment, and may cause an explosion of topgrowth when growing conditions become ideal. Frequent irrigation discourages good root growth and promotes crabgrass and *Poa annua* germination and establishment. Depending on weather conditions, however, a certain amount of fertilizer and irrigation may be desirable during the spring.

Moderately heavy but infrequent irrigation is called for during extended periods of spring drought, because turfgrass roots will not grow in a bone-dry medium. Although heavy applications of granular fertilizers will be ineffective while soil temperatures are still quite low, several light applications of liquid fertilizer may be beneficial in providing more color without forcing excessive growth. Liquid fertilizers, which are absorbed foliarly, are not dependent upon warm soil temperatures for uptake and utilization. As a result, small amounts of actual nutrients are all that is necessary to achieve an acceptable degree of greenup. Apply about 1/16-1/8 lb. N/1000 sq. ft., plus iron and other micronutrients if desired, on a two- to three-week schedule beginning in early spring after topgrowth resumes.

Playability Is Most Important

After all is said and done with respect to encouraging early spring greenup, the question remains as to why golfers place so much emphasis on the color of the turf during the early part of the golfing season. Shouldn't *playability* be the key concern at this time of year? To some, perhaps dark color is indicative of good health and playability, but this is often not the case. It is not hard to find examples of dark green putting turf which lacks a good root system and is too succulent, bumpy and slow.

Perhaps the very best way to deal with golfers' complaints about the lack of early spring color and growth is to provide as smooth and true a putting surface as can be obtained at that time, and explain that forcing growth with fertilizer and water would be detrimental as the season progresses. Various grooming techniques can be utilized to smooth the putting surface during the spring, including the use of combs, brushes and Wiehle rollers on greensmowers. Light, frequent verticutting should be done to eliminate excess leafiness and grain. Finally, several light topdressing applications, beginning as soon as the greens have dried out enough to accommodate the weight of the topdresser, should be made to provide the best possible putting surfaces. An added benefit of topdressing is that a dark colored material applied to the surface will tend to absorb more of the sun's heat, resulting in earlier spring greenup.

In summary, golfers' complaints about poor spring color and growth plague many golf course superintendents in northern regions. Color has always been overemphasized as a criterion for judging golf course turf quality, but this is slowly changing as golfers become more aware of the importance of playing conditions. By following the above recommendations for promoting earlier greenup and by providing a smooth, true putting surface, many of the concerns about early spring color and growth may disappear.