

thing should be in the "go" position. At best, stolons should not be stored for more than four or five days before planting.

Perhaps the most often overlooked point in succeeding at stolonization is the rate of application. No less than 10 full bushels per 1,000 square feet should be used. This rate is needed to insure crowding at the outset. Crowding forces narrower leaf blades and a tighter, more acceptable turf. Many golfers have remarked that seeded greens have a finer texture than stolonized greens. The reason is that the rate of stolonization is frequently too low to force adequate crowding, and by comparison, there are more plants per square inch in the seeded green. Therefore, be sure to plant at least 10 bushels of stolons for each 1,000 square feet.

Planting should start as soon as the stolons arrive. Hand distribution still seems to be the best of uniform application. Cover the stolons with enough soil so that only about 25 per cent of the plant continues to show through the surface. Of course, use the same soil mixture for top-dressing as was used in original green construction. After rolling and again adequately fertilizing (preferably with an organic fertilizer this time), uniform irrigation at proper intervals (keep the stolons damp) will bring the newly stolonized green into play. A minimum of 10 to 12 weeks of good growing weather will be needed before play should be anticipated.

When stolonizing greens, be sure to deal with a reputable stolon nursery. Poor material or



*Photo by Geoffrey A. Hall*

*Stolons should be harvested in a "hardened" condition.*

unknown sources spell disaster. The stolons should be harvested in a fairly "hardened" condition. If the parent material is "soft," overly fertilized, or in wet growth, it will not store well or develop strong, new plants. Of course, the nurseryman must be able and willing to guarantee purity of strain and freedom from weeds, bermudagrass and other foreign matter.

Stolonized greens offer greater uniformity of turf over the years, somewhat better disease resistance, and a greater adjustment to the climatic and growth factors.

## Bringing Greens Into Play

by LEE RECORD, Northeastern Agronomist, USGA Green Section

How many golf course superintendents in the United States have experienced the challenge of bringing a new putting green into play? Success or Failure begins with the initial construction. On this foundation lies a challenging and rewarding accomplishment.

The initial construction has been completed; grades and elevations are finished; tile lines have been installed for drainage; the soil mixture and

seedbed have been prepared; seed, stolons or sod have been applied. The day of judgement begins.

Cultural practices from this day forth will determine the future condition of the course. Experiences will be your guide.

Water management is the most critical factor for germination and survival of your stolons or sod. Initially we are interested in the first few

inches of soil, for it is here that root development is necessary to stabilize the grass plant. Syringing the green several times a day will be an essential requirement. The upper surface must remain moist. Watering by hand for the first 10 to 14 days should provide ideal growing conditions. Working by hand will lessen the chance of erosion or creation of puddles on the green, and will assure a uniformly moist surface. As the plant grows, mechanical methods of watering may then be employed. Watering practices will necessarily change, as the plant develops and as climatic conditions change.

Mowing should begin when the grass reaches normal putting green height of 3/16 to 5/16 of an inch. Close frequent mowing beginning as soon as possible is essential. A sharp mower has to be used, and the green must be firm enough to support the mower and the man using it. A dull mower may bruise the turf, interfere with the rate of growth, and encourage diseases and insect activity. A power mower used too soon on the putting surface may create undulations and the spinning rollers could bruise the turf. Here we suggest that hand mowers be used for the first two weeks of mowing on a seeded or stolonized green. Greens should be mowed daily. Clippings may be left on the green during the early stages of green development, so long as the accumulation is not excessive.

#### **Topdressing Essential**

Topdressing is essential for properly strengthening and developing the green, yet it is sometimes neglected. From the start, a new green needs topdressing with the same sterilized, uniform mixture that is used for your seedbed. Topdressing materials other than the type used in the base lead to soil layering and the eventual weakening of the green. Stolonized greens must be topdressed several times within the first few months. Greens established with sod may not require as much topdressing. However, it should not be completely neglected. On the seeded green, topdressing is more exacting and critical than on sodded or stolonized greens. The first topdressing should begin within the second to third week after germination. It must be done with great care because young plants are easily injured.

Beginning with the first topdressing, we are encouraging growth and smoothing the putting surface. The first topdressing will tend to fill in depressions and help retain moisture at the

seedbed level. Additional topdressing will be required, perhaps as much as twice a month, until the green is ready for play.

If the turf catch is not satisfactory in localized areas, some resseding, re-sodding or restolonizing may be necessary. On seeded greens use certified blue tag seed only, and stay with the same variety. If additional stolons are not immediately available, Pennlaw fescue seed may be used to good advantage. This fescue will temporarily blend with any bentgrass and will disappear within a season. As it weakens the bentgrass takes over. Sodding is an exacting operation, and special care should be taken to assure a smooth surface. Special care of localized weak areas is sometimes required until such time as the weak areas are strengthened.

#### **Use Complete Fertilizer**

Preventive fungicide and insecticide applications should begin within a few weeks after the turf is established. Compounds containing mercury should be handled carefully because young plants are sensitive to this material. Young turf is as susceptible to disease and insect activity as mature turf.

Different strains of grass require different amounts of fertilizer. A complete fertilizer should be used in establishing the turf cover. Topdressing in the early stages of green development could help slightly in adding nutrients.

Phosphorus stimulates early growth and root formation, and contributes to the general hardiness of the plant. Potassium is associated with the manufacture of carbohydrates and is linked with nitrogen in controlling growth. Nitrogen sources vary. Some are slow-acting; some are fast-acting. Many turf specialists believe that no more than one-half pound of actual nitrogen should be applied per 1,000 square feet at one time. Normally a 4-1-2 or 3-1-2 ratio is excellent in establishing greens.

The man responsible for maintenance of the green should determine when it is ready for play. Permanent injury could result from allowing play on a new green prematurely. Under normal conditions a green completed in the spring may not be ready until late in the fall. The golfer should realize that a new green does not become mature for a period of from three to five years. It takes this length of time to establish enough thatch for proper resiliency and cushion.