

Spring brings new beginnings and hope for many things. However, spotty, thin turf cover in spring probably will not improve during the heat of summer, unless you take action.

By
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Spring Renovation: Warm Season Turfgrasses

If compaction is a problem, aerate the turf before renovating the turf to help improve growing conditions. Photo courtesy: Cushman.

Warm season turfgrasses respond better to spring establishment than cool season turfgrasses. They need warm days to germinate and develop. Searing summer heat will not take as great a toll on young warm season grasses.

By following recommended renovation techniques, you can repair or re-establish damaged turf areas, allowing them to withstand a summer of outdoor recreation.

The first step to renovating turf is determining what caused the turf to fail. Then, attempt to correct the problem. If you simply replace the turf area, the stress factors may again cause the turf to die.

The following are six common stress factors for warm season turf and some solutions to the problems.

Excessive Traffic and/or Soil Compaction. Re-route traffic to avoid excessive wear and correct compacted areas. Consider incorporating coarser textured soil or sand in the soil to modify the pore space in the total soil mix. This will help reduce future compaction. Cultivate the compacted areas with core or solid tine aerators.

Combining soil modification and aeration can help make a permanent change in the soil's air and water infiltration capabilities.

Internal and External Drainage. Correct surface drainage, if necessary. Eliminate low spots where water can collect. Improve soil drainage with drain pipe if soil modification and cultivation do not solve the problem.

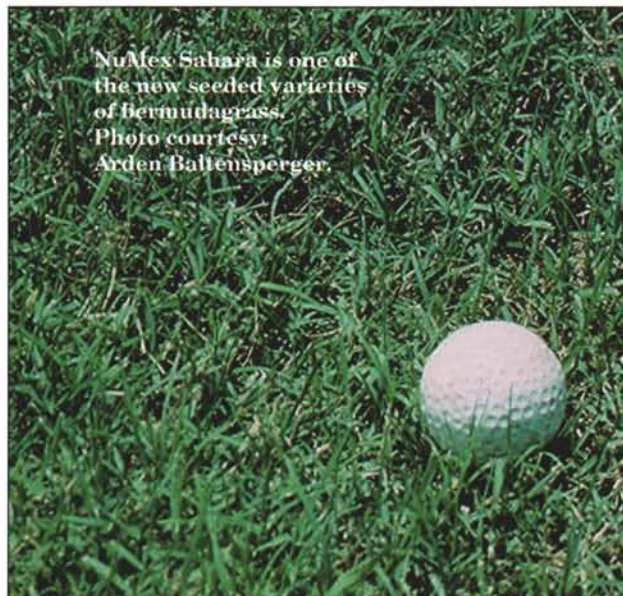
Winter Turfgrass Killing. Low temperatures and/or low soil moisture dur-

ing winter months can cause winter kill. Warm season turfgrasses in the transition zone are most susceptible. Reseed, sprig or sod winter killed areas with an adapted variety. If desiccation was the problem, water occasionally during winter dormancy in the future.

Shade Problems. Select shade-tolerant turf species and varieties, such as St. Augustinegrass, zoysiagrass or centipedegrass. If changing the turf species is impractical, prune trees to allow more light penetration. Raise the mowing height to encourage turf to produce more chlorophyll. Fertilizing more frequently may help replace some of the nutrients the trees use, reducing the competition between trees and turf.

Pest Damage. Whenever possible, select turf varieties that resist disease, insects and other pest problems. Maintain turf health through good cultural practices, which will help reduce the turf's susceptibility to problems. If pests do become a problem requiring a chemical treatment, have a trained chemical applicator apply the proper control according to product label instructions.

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NuMex Sahara is one of the new seeded varieties of bermudagrass. Photo courtesy: Arden Baltensperger.

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Cultural Turf Management. All cultural practices should take into account the limitations and optimal growing requirements of the turf. Different environmental conditions will require different maintenance levels. Fertilize, mow and irrigate according to turf needs. If you find yourself constantly renovating a given area, evaluate your maintenance practices.

Spring Renovation Techniques

After you have corrected the cause of the problem, establish the new turf or build up thin turf. As a general rule, if there is at least 50 percent or more healthy turf, follow a seedbed preparation program with either seeding, plugging or sprigging. If there is less than 50 percent healthy turf, the best alternative may be to kill off the turf and weeds. Then reseed, sod or sprig the entire turf area.

If you plan to kill off the existing turf, apply a chemical, such as glyphosate, when turf and weeds are actively growing. Follow the

application rate on the product label and don't spray on windy days or if rainfall is expected within 24 hours. Allow the chemical to work for about 10 days. Either power rake the area to remove the thatch or scalp the lawn with a mower to 1/2- to 1/4-inch high.

In moderately damaged areas, you can prepare the seedbed with a vertical mower. Slit seeders can be helpful in areas where annual damage repair is necessary.

Warm season turfgrass is established with seed, sod, sprigs or plugs depending on availability, monetary considerations and time constraints.

If you find yourself constantly renovating a given area, evaluate your maintenance practices.

Soil temperature is critical for warm season turfgrass establishment. The optimum soil temperature for germination and root growth for bermudagrass is 75 to 80 degrees F. The minimum soil temperature for seeding is above 60 degrees F. If you seed or sprig below that temperature, a poor-quality stand could result. It's a common mistake to seed before the temperature warms up adequately.

The upper limit for root and shoot growth for most warm season turfgrasses is 100 to 120 degrees F. Therefore, once you've started your warm season turf, it should continue to grow satisfactorily through the summer.

If you decide on seeding, pay attention to seed quality. The cost of seed often is only a minor part of the total expenses in renovation. However, seed quality can greatly affect the results. Look for high-quality, certified seed that is weed-free and has a high germination rate.

Seeding rates on sod-forming turfgrasses, such as bermudagrass and buffalograss, are impor-

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tant. A low seeding rate will result in a lower turf density and somewhat coarser texture during the first year or two.

As a general rule, suggested planting rates for bermudagrass under good seeding conditions (using seed with a germination rate above 85 percent and a seed purity above 98 percent) are 1.5 to 2 pounds per 1,000 square feet for unhulled seed and 1 to 1.5 pounds per 1,000 square feet for hulled seed.

Check with your local extension agent or seed supplier for recommended planting rates in your area for the seed varieties you select. Seed coatings will affect the number of seeds per pound and, therefore, the seeding rates. Check to be sure you are applying seed at a high enough rate.

Once you have decided whether to use seed, sprigs or plugs, you need to choose a planting method. You will achieve the best results with good seed-to-soil contact.

Aerating and Broadcast Seeding. Aerate thoroughly with a core aerator that creates holes about two- to three-inches apart. Break up the cores using a drag or tine harrow. Then, broadcast

seed over the turf area. The seed will take advantage of the air space opened up by the aerator. This method will not result in a high germination rate unless there is good seed-to-soil contact.

Overseeding. A slit-seeder uses vertical cutting blades to slice into the soil and turf, creating a miniature furrow. Then, grass seed drops into the furrow. For thorough coverage, divide the seeding rate in half. Make two passes at a 45-degree angle, leaving a diamond-shaped pattern.

Plugging. As an alternative to sodding, you can renovate with turf plugs. Either purchase pre-rooted plugs or cut plugs from sod squares. An auger makes drilling plug holes quicker. Install the plugs between six- and 12-inches apart, depending on the species and growing conditions. Slow-growing species, such as zoysiagrass, require closer spacing to provide uniform coverage in a reasonable amount of time. The closer you install the plugs, the more quickly the turf will cover. However, the more plugs you use, the more expensive the job will be.

Sprigging or Stolonizing. Some warm season turf varieties must be estab-

lished vegetatively. Sprigs or stolons are living pieces of grass plants. They require a well-prepared seed bed. Scatter them at a rate of one to six bushels of material per 1,000 square feet. Topdress and water well.

After Care

Newly planted turf needs adequate moisture and warmth to thrive. Water immediately after planting. Keep the soil and seed moist during the first 10 to 14 days, or until the seed germinates. Water at least once a day or more frequently, wetting the top inch of soil.

After germination, back off the irrigation frequency. Water more deeply and infrequently, slowly reducing frequency until you are irrigating according to recommendations for your turf species.

Following a spring renovation program can give you healthy turf that will withstand a summer of recreation. □

Arden Baltensperger is Emeritus Professor of Agronomy at New Mexico State University where he conducted extensive research on bermudagrasses. He also is Director of Turfgrass Research for the Farmer's Marketing Corp.

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