

Overseed Bermudagrass Tips For Achieving



The bermudagrass is scalped and the clippings are removed.



Grooves are cut into the topsoil to receive the seed.

By Arthur Bruneau, Joseph DiPaola, William Lewis, William Gilbert and Leon Lucas

Bermudagrass usually stops growing and turns brown after the first hard frost. It remains dormant until temperatures in the spring reach 60 degrees F. Each fall, many athletic fields are overseeded with cool-season grasses to improve turf appearance, traction, playability and wear tolerance during bermudagrass winter dormancy.

Preparing bermudagrass for overseeding is a year-long process. Bermudagrass must be healthy to withstand the harsh cultural practices and turf competition associated with overseeding. Careful management throughout the entire growing season is needed for successful overseeding.

Applications of lime, phosphorus and potassium based on soil test reports along with proper mowing, watering and fertilization practices should be followed throughout the growing season.

Late summer fertilizations should be low in nitrogen and high in potassium to insure that the bermudagrass will not be too competitive with the overseeded grasses and yet be healthy enough to withstand the overseeding process.

Thatch control and the prevention and alleviation of compaction through vertical mowing (verticutting) and aerifying (coring) during the growing season should also be practiced. All of these procedures are necessary to provide a good seedbed and discourage the need for heavy vertical mowing just prior to overseeding in the fall.

Successful overseeding can be done two to three weeks prior to the expected first frost date or when the soil temperature at the four-inch depth approaches 75 degrees F. Waiting until this time will minimize bermudagrass competition, optimize germination and establishment of overseeded grass-

es and reduce seedling diseases. Other factors, such as tournament play and special events, may dictate that seeding dates be altered.

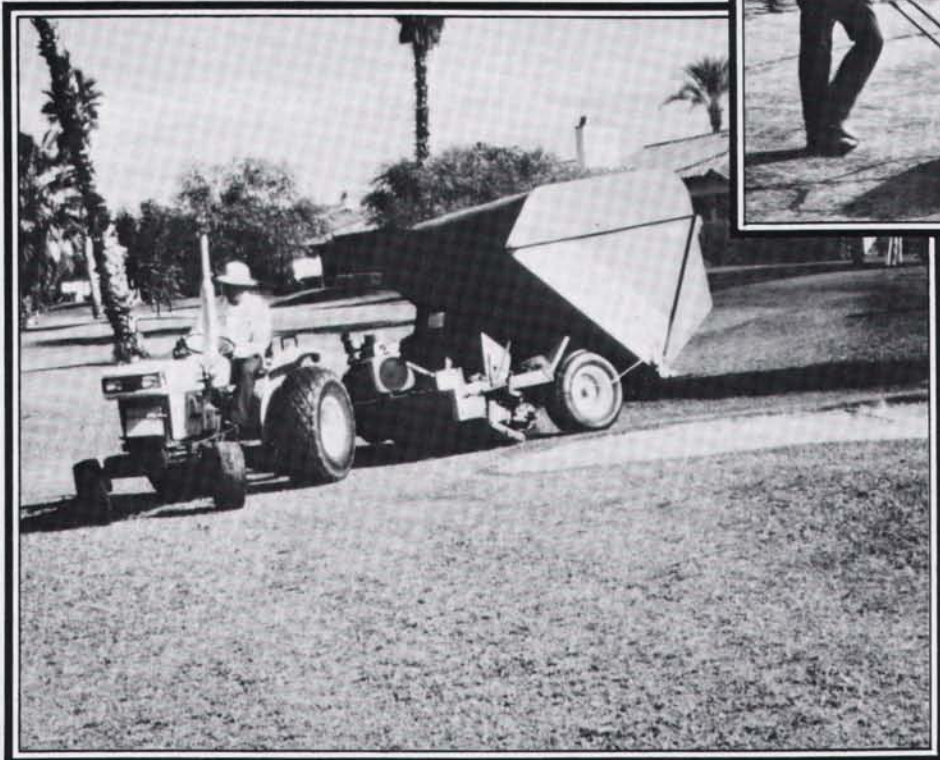
The reduction or removal of bermudagrass thatch to insure good seed-to-soil contact is critical to the successful establishment of cool-season grasses in bermudagrass turf. Athletic fields seldom require the intensive preplant procedures applied to golf greens and tees.

Extremely close mowing just prior to overseeding is essential. Common bermudagrass, if sufficiently open, does not require heavy verticutting for removal of thatch. However, moderate verticutting, light slicing (rotating flat tines that slice through the soil) or coring and pulverizing of cores are advisable. Coring should be done several weeks in advance of overseeding. Cores can be broken up after drying by pulling a

eeding agress: y Good Results



Seed is applied at a rate of 10 to 40 pounds per 1,000 square feet depending upon the site.



Clippings from scalping and thatch from verticutting are picked up with a vacuum before seeding.

chain link fence or mat over the surface.

Intensively managed areas such as baseball fields should be filled with original root zone mixture to bring them up to grade.

Annual and perennial ryegrasses are the major grass species used for overseeding athletic fields. Both are very quick to establish, relatively inexpensive and fairly wear tolerant. Common perennial ryegrass should be avoided because it is a hay or pasture type. Only 'turf-type' perennial ryegrass cultivars should be chosen. These grasses, sometimes used on golf courses, are finer textured, denser, more uniform, and nearly as fast to establish as annual ryegrass. They are also more disease, heat, and cold tolerant and make a smoother transition than annual ryegrass. They are also more expensive.

Another type of ryegrass, referred to as intermediate ryegrass, is now available. Cul-

tivars of intermediate ryegrass are moderate in performance compared to perennial ryegrass yet superior to annual ryegrass.

Cultivars of perennial ryegrass differ in their fall performance and spring persistence. This is relatively unimportant to the homeowner yet may be of prime importance to those who maintain athletic fields. Cultivars that perform well in the fall and do not persist in the spring are the logical choice for football fields that are used heavily in the fall. Certain perennial ryegrasses, such as Barry, Derby and Manhattan, have these characteristics. Cultivars with late transition, such as Delray and Prelude, may be the logical choice for soccer fields receiving a lot of play in the spring.

Areas receiving heavy traffic may require wear-resistant blends accompanied with occasional reseeding. Entrances to soccer goals, areas in front of benches and turf be-

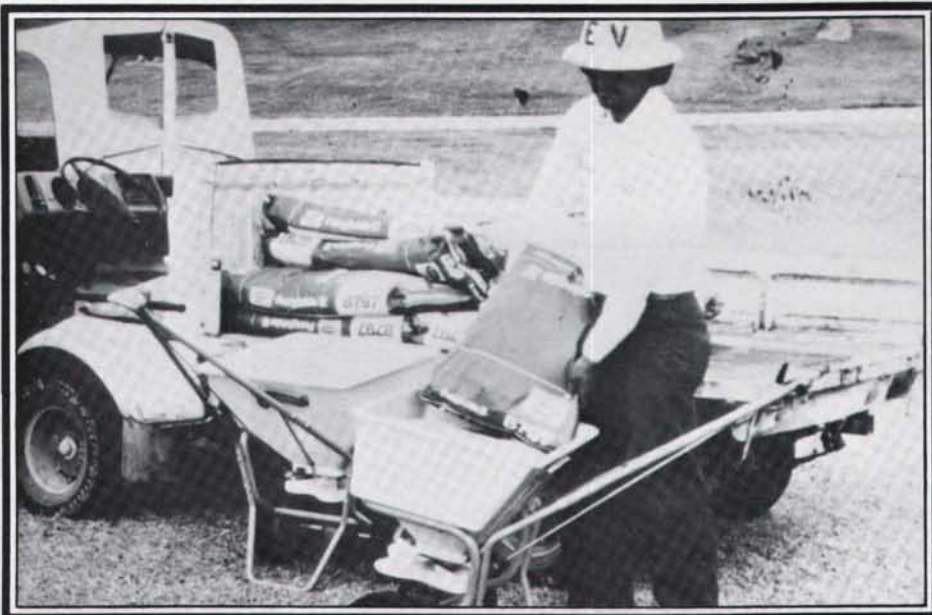
tween the hash marks are more subject to wear and tear than other parts of the field.

Sports turf managers should always specify at the time of purchase the minimum percent purity and germination that they will accept. Overseeding mixes should not contain annual bluegrass. Seed producers who certify their seed, test each lot of seed for germination, purity and off-type seed.

The only way to be certain of these facts is to buy certified seed and read the blue tag attached to the bag. Any crop or weed seed content will be listed. Crop is defined as any plant material that is grown for profit. Many difficult to control weeds, such as orchardgrass, can be found in this category.

Sports turf managers should plan ahead and place their seed orders early enough to insure that the desired seed and seed quality will be available. Seed companies

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A granular fungicide is applied to avoid an outbreak of pythium during germination. No nitrogen is applied, just phosphorus.

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are recommending that orders for specific varieties of perennial ryegrass be placed no later than spring since the latest seed harvest may not meet existing demand.

Treating seed with fungicides, such as metalaxyl (Apron) or etridiazole (Koban) or spraying before or after seeding with Koban or metalaxyl (Subdue) will reduce the potential for seedling loss due to pythium diseases. This is extremely important for early overseeding.

Remember to purchase extra seed for repairing small areas over the winter that may be damaged by pests, weather or traffic. Accurate measurement of the areas to be seeded and the seeding rate will assure that only the right amount of seed is purchased. Any extra seed should be stored in a cool, dry place to retain germination.

Seeding rates depend on the grass or grasses being used and the density of the turf desired. Grasses with small seed such as bentgrass and rough bluegrass can be seeded at lower rates compared to grasses with large seed such as annual and perennial ryegrass, yet still provide a comparable number of plants per given area. Areas receiving a lot of traffic will have to be seeded at higher rates compared to areas where winter color is the main objective. Higher seeding rates will increase cost but may enhance cover and establishment. Avoid planting at excessively low or high seeding rates to prevent thin, open turf and the incidence of disease.

Unlike bermudagrass, ryegrass does not have the ability to spread and fill in where seed does not land. A uniform green turf can only be achieved if the seed is applied accurately and uniformly. To insure uniform

coverage, use a centrifugal (rotary) or drop-type spreader, applying half the seed in one direction and the other half moving at right angles to the first pass. A drop spreader is preferred for defining the margins of overseeded areas.

Athletic fields should be dragged with chain link fence, carpet drag or something comparable. Topdressing may not be necessary except on intensively managed or trafficked areas. All equipment and personnel involved in seeding, topdressing and matting operations should be confined to the area being overseeded to avoid spreading seed and to maintain clean definitive edges. Use carpet to clean shoes and equipment before leaving the overseeded area.

Intensively managed areas planted with untreated seed may need to be treated immediately after seeding with a fungicide for pythium control. Brown patch may also kill seedlings in circular patches. These diseases are especially active when temperature and humidity are high. Become familiar with seedling diseases and apply appropriate fungicides as needed.

As soon as possible begin to lightly water the new seedlings just enough to moisten the surface without causing puddling or movement of the seed. Do this four or five times daily for a week to ten days. Gradually reduce the frequency and increase the duration of irrigation until the ryegrass is well established. After establishment, irrigation should be deep and infrequent. Water to a depth of six inches and wait until you see signs of moisture stress, such as blue-green appearance, leaf curl or foot prints that remain on the turf. In cool weather, the ryegrass may need to be watered only once every two weeks.

Germination will depend on the type of overseeded grass and the age of the seed. Ryegrass germination can occur in less than seven days under favorable conditions whereas bluegrass may take as long as two to three weeks.

Begin mowing as soon as the new stand is 30 to 40 percent taller than the desired mowing height. Infields are usually mowed at 1/2 to 3/4 inches, while outfields, soccer fields and football fields are cut at 3/4 to 1 1/2 inches. New seedlings must be mowed when relatively dry using a sharp blade. This will reduce the chance of pulling or damaging the seedlings.

Do not fertilize at the time of overseeding because this may encourage bermudagrass recovery. There should be sufficient fertilizer in the soil and food reserves within the seed to allow for proper germination. Begin to fertilize shortly after shoot emergence (three weeks after seeding) and continue until cold weather halts growth of bermudagrass. This normally requires the application of 1/4 to 1/2 pound per 1,000 square feet of quick release (water soluble) nitrogen every two to three weeks or 1/2 to one pound per 1,000 square feet of controlled-release nitrogen each month. Remember to maintain adequate levels of phosphorus and potassium for good plant



Greens can be lightly topdressed with sand to help cover the seed.

growth based on soil test results.

Wear from traffic should be minimized whenever possible. Reduce compaction on athletic fields by keeping field use to a minimum when wet. Postpone play or use an alternate site for team and band practice. Move non-stationary goals so that play will not be concentrated in a given area. Keep traffic off all areas whenever the ground is frozen, frost is present or shortly after surface thaws.

In the spring bermudagrass resumes growth when soil temperatures approach 60 degrees F. The aim is to aid the transition from the cool-season grass back to the bermudagrass. Some cool-season grasses, especially the new aggressive, heat-tolerant perennial ryegrasses, can successfully compete with bermudagrass. This can result in poor spring transition.

When night temperatures approach 60 degrees F. begin mowing the overseeded turf lower. This will stress the ryegrass, reduce its ability to compete with the bermudagrass and help the soil warm up faster.

Avoid applications of fertilizer during spring green-up to prevent injury to the bermudagrass and to discourage the cool-season grasses. Maintain adequate soil moisture to encourage the rooting of the bermudagrass.

When cool weather delays bermudagrass greenup and the field needs to be perfect for a late spring event, some sports turf managers apply pronamide (Kerb) to selec-



The overseeded area is lightly dragged with a piece of carpet to smooth the surface.

tively kill ryegrass in bermudagrass turf. The idea is to eliminate the competition of the ryegrass. Other grasses that will be damaged by pronamide are annual bluegrass, bentgrass, Kentucky bluegrass, red fescue, tall fescue and St. Augustinegrass. Bermudagrass, bahiagrass, buffalograss, centipedegrass and zoysiagrass are tolerant of the herbicide.

Other methods of increasing soil temper-

ature to encourage bermudagrass greenup are covering the field to create a greenhouse effect and dying the turf so it will absorb more heat from sunlight. These techniques should be tried on a limited area first to gauge safety and effectiveness.

EDITOR'S NOTE: The authors are on the faculty of North Carolina State University, Raleigh.

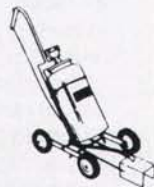
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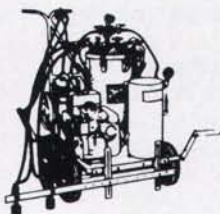
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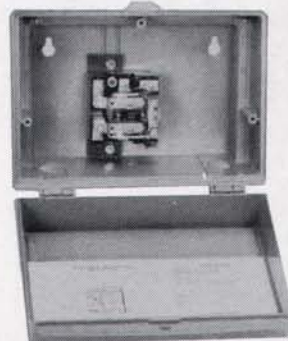
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