

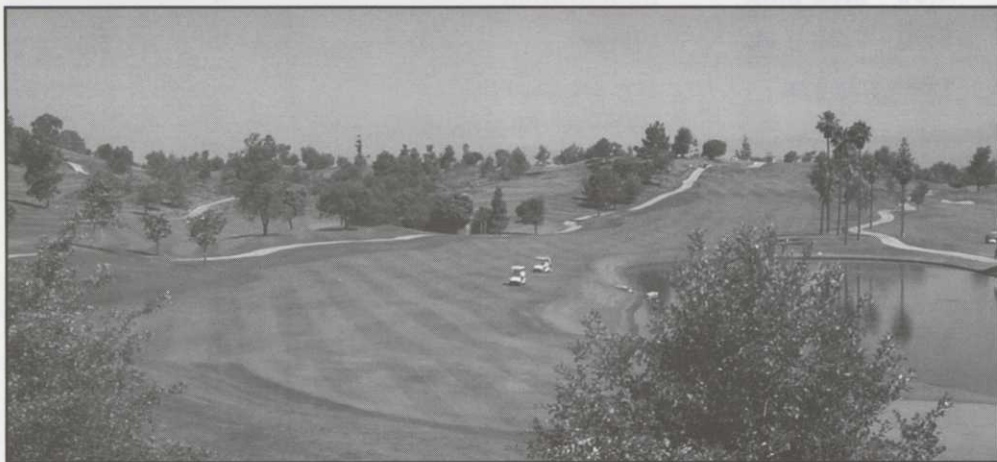
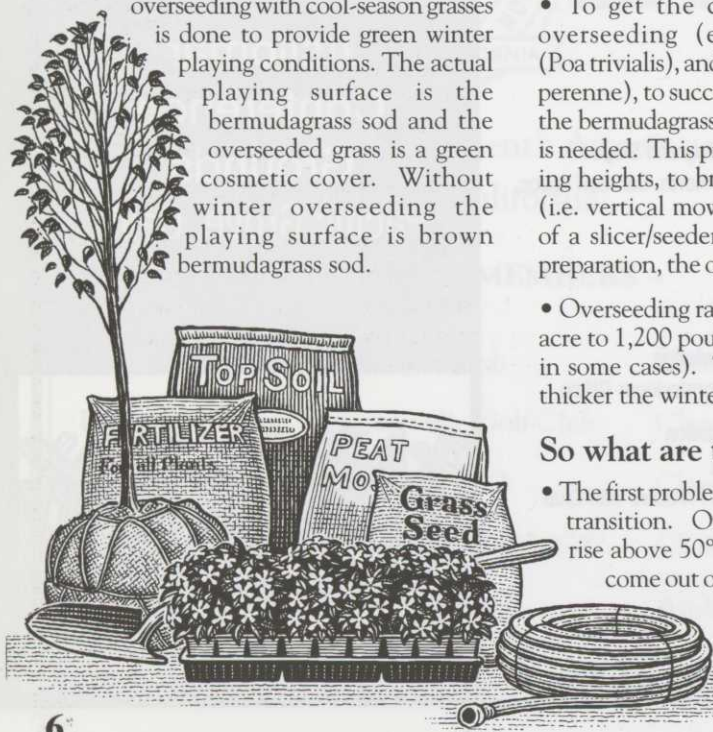
OVERSEEDING... *Boon or Curse?*

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Living in the Southwest, we are blessed with warm conditions for much of the year. Unfortunately, no one grass species is able to provide ideal green playing conditions year round since cooler winter weather follows the hot summers. Cool-season grasses, such as perennial ryegrass, roughstalk bluegrass, and creeping bentgrass, grow best at temperatures between 60° to 85° F while warm-season grasses, such as bermudagrass, are best adapted to temperatures exceeding 85° to 90° F. Warm-season and cool-season grasses are named based on their ideal physiological and adaptive mechanisms for different climates. As an example, warm-season grasses are green and healthy in conditions above 85°F yet they turn yellow and then brown due to winter induced dormancy response when rootzone soil temperatures drop below 50°F. The dormancy response is a survival mechanism. Cool-season grasses have good cold tolerance yet are increasingly stressed as temperatures rise. Few topics provoke more controversy at golf courses throughout our region than overseeding for winter play. Let's take a look at the good and the bad concerning winter overseeding. First look at what winter overseeding actually is.

• Due to the dormancy response of warm season grasses to cooler winter temperatures, overseeding with cool-season grasses is done to provide green winter playing conditions. The actual playing surface is the bermudagrass sod and the overseeded grass is a green cosmetic cover. Without winter overseeding the playing surface is brown bermudagrass sod.



Overseeded cool-season grasses result in great mow patterns with deep green color.

- Bermudagrass goes dormant to protect itself from cool temperatures that are below its physiological metabolic requirements. Dormant bermudagrass is not dead but in a sleep-like state waiting for the increased light and warmth of summer to bring it out of the hibernation-like dormancy state. (Cool-season grasses will also go dormant but only following weeks of freezing temperatures since cool-season grasses are more cold tolerant).

Next, let's look at the procedures needed for winter overseeding.

- To get the cool-season grass used for overseeding (e.g. Roughstalk bluegrass (*Poa trivialis*), and/or perennial ryegrass (*Lolium perenne*), to successfully germinate and grow in the bermudagrass sod, some kind of cultivation is needed. This process ranges from lower mowing heights, to brush sweeping, to dethatching (i.e. vertical mowing), to core aeration, to use of a slicer/seeder. Following the cultivation preparation, the overseeded grass seed is applied.
- Overseeding rates range from 250 pounds per acre to 1,200 pounds per acre (and even higher in some cases). The higher the seed rate, the thicker the winter grass cover.

So what are the problems?

- The first problem occurs during what is termed transition. Ordinarily, as soil temperatures rise above 50° F the bermudagrass begins to come out of dormancy. Theoretically, the warmer temperatures rise, the more stressed the cool-season grass is while the bermudagrass keeps getting stronger.

What are the solutions?

- One option is to play on dormant bermudagrass in winter (i.e. do not overseed). This provides the best transition in spring and summer while the same (albeit brown) playing conditions in winter.
- A compromise would be to overseed putting green surrounds, approaches, and tees only. This option is much cheaper and does not require weeks of golf course closure.
- Eliminating cart traffic in the wintertime or a strictly enforced 90-degree rule will dramatically reduce bermudagrass wear and soil compaction problems.
- If a golf club insists on winter overseeding, it may be necessary to stop overseeding for several years when bare bermudagrass areas occur to rebuild the bermudagrass sod by resodding or hydroseeding.
- Golf courses in the Southeastern United States have found excellent results with a high-pressure air overseeder. This machine has the advantage of not needing seedbed cultivation and injects the seed to the correct depth without sod damage. Experiments with this new machine are scheduled for this fall at Vista Valley Country Club and we will watch these results carefully. It should be pointed out that Vista Valley Country Club has just finished two consecutive years of not overseeding to restore the bermudagrass sod.