OVERSEEDING GREENS

By Bill Keefe

Editor's Note: This article appeared in Volume 20, No. 3, Summer 1990 issue of "New Hampshire Turf Talk", official publication of the New Hampshire GCSA. Bill Zuraw is the editor, and he is the golf course superintendent at the Crump-N-Fox Club in Bernardston, Massachusetts. This is the second time a New Hampshire article has appeared in "THE GRASS ROOTS" "From Across the Country". It is reproduced here with Bill's permission. During the conversation we had while I was asking to use this, Bill mentioned how well a "THE GRASS ROOTS" piece was received in New England. He was referring to Dave Butz's article in "Shop Talk" that gave instructions on Maple Bluff's SAND PRO rake modification.

The article, written by Bill Keefe, tells of problems with "Poa annua" winter kill and subsequent overseedings of damaged areas. Bill was the golf course superintendent at the Brattleboro (Vermont) Country Club when the article was written. He is now the golf course superintendent at the Amherst (Massachusetts) Golf Club. Interestingly, Bill attended the two-year program at the Stockbridge School of Agriculture, University of Massachusetts, in Amherst.

Thanks to both Bills!

During the last three years at the Brattleboro Country Club, I have discovered various overseeding techniques which work and some which do not work.

Winterkill of *Poa annua* has left many golf course superintendents with no choice but to overseed. Faced with less than ideal putting conditions in early spring, members and club officials are anxious for superintendents to "get out there and **DO** something." Because there is always one club down the road somewhere which has overseeded its putting greens at the earliest possible opportunity, the pressure is on everybody to overseed, even if one's better judgment says "wait."

Early spring overseeding can be a cruel joke. Soil temperatures are too low. Greens are still too soft to support heavy equipment and intensive cultivation. Irrigations systems are not operating. Even if they are, trying to get greens dried out and at the same time watering new seed (which takes forever to germinate, if it germinates at all), is frustrating.

Seed will not germinate until soil temperatures are adequate. At Brattleboro, the greens with the most tree "protection" (shade) happen to be the greens with the most dead *Poa annua.* These are the greens where the need to overseed is the greatest, yet the seed response will not occur on these greens in early April. They are at least three weeks behind the healthy (sunny locations) greens, in terms of soil temperature and time of germination.

Two years ago, I overseeded three times in April. The first seeding in early April seemed a waste of time. The second in mid-April showed some germination, but mainly on the "better" or warmer greens. The final overseeding at the end of April finally resulted in germination on all putting greens.

Seeding greens three times was a waste of seed and labor. Keeping greens moist for such a long period encouraged the spread of the surviving *Poa annua* (and its seed) and promoted shallow rooted and weak turf.

Hot and windy weather in May put a lot of stress on the bentgrass just emerging from the final seeding. Frequent light watering during the day was necessary to ensure survival. One afternoon, seedlings watered at 12:30 p.m. were dead by the next scheduled watering at 3:00 p.m.

It takes several months for a bentgrass seed to become a mature plant capable of handling maximum summer or winter stress. Seed started in April is not ready for the stresses ahead.

The extra water and fertilizer needed to aid the establishment of the new seedlings further compounds the problems by producing succulent instead of hardy turf.

Preparation for a successful spring can begin in the fall. I firmly believe the August 15-Labor Day period is the ideal time to overseed greens in our area. Germination of bentgrass seed can occur in as little as three days. Soil temperatures are ideal. Morning dew is heavy. The sun is well past its solstice. Even though it is August, the sun is no stronger than it was in April.

Bentgrass seed is surprisingly hardy when planted at this time. Very little water is needed to ensure establishment, and the plants have sufficient time to mature and harden for winter survival.

At Brattleboro we do not have an overseeder. I have used a verticut and drop-seeded into the slits with good results. My experience is that the deeper and wider the slits, the better the results will be. But I prefer to overseed when aerifying. After aerification with a Ryan Greensaire with ½ tines (which make a ⅜" hole), the cores are removed and the topdressing is applied. Up to 10 Cushman topdresser loads or two yards of material is applied to each 4,000 to 5,000 square foot green. This leaves a layer of topdressing almost 1/16" thick.

The seed is then broadcast over the topdressing at a rate of one to two pounds per 1,000 square feet. Sand is the easiest material to work into the holes, although I do feel a topdressing mix containing some peat is a better topdressing material.

It takes a lot of effort to fill the aerifier holes. I use an upside down aluminum trap rake and work the material back and forth until it is gone. I do not think dragging the topdressing with a brush works as well, but brushing and thoroughly watering the greens afterward is helpful.

Mixing the seed and the topdressing in this manner results in the bentgrass seed being buried at a depth of anywhere from 2½" below the surface to right at the surface. I do not know which seeds survive and which do not. But the bentgrass seed's ability to survive when planted deeply may be underestimated.

The deeper the seed, the greater the protection from mower and traffic damage and from moisture stress. With this method, the bentgrass seed has never failed to emerge from the aerifier holes, although it is difficult to see the results

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of overseeding a month after it is done. The following spring, however, the solid stands of *Poa annua* show healthy and mature bentgrass plants matching the pattern of the aerifier holes.

If there is a loss of *Poa annua,* the bentgrass can quickly fill in. The principal reason I like early fall seeding is that the plant is ready the following summer to survive extreme moisture stress. Irrigation and nitrogen levels can be adjusted to allow the bentgrass to dominate the *Poa annua.*

The final overseeding technique I would like to discuss is dormant overseeding. I feel it can be of tremendous value to golf course superintendents in northern New England.

For dormant seeding, I wait until there is no chance for germination in late fall — the month of November if the ground is frozen and there is no snow. If the soil needs to be worked or if you are aerifying or slicing and seeding, late October up until the ground freezes also works well.

Dormant seeding is truly a "no muss, no fuss" technique. In the spring the seed germinates when it is ready. Winter conditions ensure good seed/soil contact. There is no need for irrigation and no guesswork regarding soil temperatures.

Also eliminated is the struggle with the wet uncooperative soil conditions you get in the spring. For two years I dormanted seeded successfully in the roughs, but had not tried it on greens. Because my club had not allowed me to aerate and seed in the early fall because of tournaments, I tried dormant seeding on three greens with significant *Poa annua* populations. I also tried it on the collars. I used a ryegrass/bentgrass seed mix.

I aerified just before the ground froze, but did not topdress and seed until early December, just prior to snowfall.

An ice cover (for up to 120 days) and the lack of snow this past winter resulted in a lot of dead *Poa annua* throughout the golf course. At Brattleboro, the damage exceeded that of the previous two years. On the greens, the *Poa annua* emerged from the snow/ice cover looking good, but it died during the month of March.

At this time, germination from the overseeding had not begun. By early April the high, dry warm locations on the putting greens saw the bentgrass germinate. The ryegrass on the collars also germinated. The worst greens, especially in the valleys or the low spots showed no response. As I procrastinated as to what to do, more seed emerged.

I waited another week and more emerged. I waited some more and finally there was seed germinating from every aerifier hole on every green and collar which had been overseeded. I did not have to overseed at all this spring, despite the severity of the damage.

I have been amazed by the resiliency of the bentgrass on the greens and the ryegrass on the collars. The ryegrass did not require water at all, even when the temperatures approached 90 degrees in May for three consecutive days. I did hand water the bentgrass seed occasionally, just to be safe. There has been no problem with wilt. I did raise the height of cut on the greens which lost *Poa annua* to help in the establishment of the bentgrass, but have not applied additional water or fertilizer to push growth.

I have considered ryegrass use as an intermediate grass to be used in the transition on fairways, tees and collars as we move from Kentucky bluegrass/*Poa annua* to bentgrass and possibly fescue.

The ryegrasses — I have used many varieties — did not survive this past winter. In some areas, mostly the more moist areas, bentgrass is well established and reseeding hasn't been necessary. In higher, drier areas and in traffic areas, I will continue to use ryegrasses, but in conjunction with a fescue blend. For quick establishment and toughness, the ryegrasses cannot be matched. But in northern New England, both *Poa annua* and ryegrass will be susceptible to winter damage and more permanent grasses need to be used.