Overseeding: a guide for professionals

BY JEFF MCGINNIS

It is a standard turf manager problem: how to achieve an established, healthy turf covering that is consistently dense on areas that get worn out by hard wear, drought, or winter damage. While differences do exist between regions, this guide was designed to assist most turf professionals with the basics of overseeding.

Overseeding today is a somewhat different process than it was in times past. Previously, a field might be shut down for 2 weeks while the procedure took place; today, given cost and scheduling pressures, the downtime is often limited to only 1 day. After that, traffic is restricted for a day, and you wait 2 days before mowing again.

Along side winter overseeding in tropical regions we should consider summer maintenance of winter sports fields.

Soil testing to determine nutrient levels is usually the first step in preparing for overseeding, followed in some areas of the country by scarification (in at least two directions) to remove debris and smooth out minor irregularities. In places where there is a high percentage of Poa annua in the existing turf make-up, intense scarification at 3/4 in. can help to weaken its competitive edge, providing the newly seeded species with a fair start.

After scarification (in some states), many turf professionals suggest mowing in at least two directions and then removing the clippings. A higher percentage of Poa annua in the cover may necessitate very close mowing, as this will weaken the Poa; unfortunately, doing this regularly will actually help the Poa, since it's more resistant to close mowing than more desirable species. The lesson here is to perform scalping only when there is a high percentage of undesirable turfgrass species.

A key step: a series of aeration steps should be performed in succession. First, deep-tine aeration should be done if possible (especially in compacted soil or areas with poor soil composition), using an aerator that produces a "heaving" action of the soil, creating fissures within the layers of soil where the tines enter it. Much of the topdressing mixture will flow down the holes produced, a desirable condition that permits rapid establishment and survival of the seedlings. If the moisture of the sand or soil prevents this flowing of the sand into the holes, than you may wish to dragmat and brush the sand into the newly created holes. (Phosphorus fertilizer may be applied before aerating, if the previous soil analysis determines it's needed.)

Following solid-tine aeration, the use of hollow-tines will aid sand incorporation, avoid layering and reduce compaction in the upper levels of the soil profile.

After initial aeration, topdress where needed with an appropriate sand and/or mixture. Choice of topdressing type depends on a laboratory analysis of existing surface samples. In most cases, a uniformly graded, medium/fine sand is preferred. Ideally the ground surface and the sand/topdressing should both be dry at time of application.

Using a dragmat and brush on the surface again will help achieve maximum filling of both solid-tine and hollow-tine holes. Additional applications of sand may help correct minor surface irregularities. Beyond this, aeration using a slitter (in five or six directions) will create numerous large drainage pores through the surface layers, improving root development and microbial activity, and enhancing filtration rates for efficient and uniform irrigation.

Once the above steps are done to satisfaction, the area should be lightly irrigated to ensure that sufficient moisture exists for rapid germination.

Finally, overseeding should be done lightly in at least two directions using

a quality overseeder and certified seed of an appropriate mix. Fresh, quality seed must be used to ensure high purity and high germination capacities. Worn areas should be overseeded more heavily. Uniformly topdress with 1/8 inch of sand to cover the seed and improve moisture retention. Prevent access to the area by visitors after overseeing and topdressing, and lightly irrigate to enhance seed germination. During hot weather, frequent light irrigation may be required, though too much water should be avoided as it can disturb the seeds.

Of all the process factors that affect overseeding success, the most important criterion by far in determining germination is good seed to soil contact. Because of this, some methods of overseeding may be insufficient; for example, simply spreading the seeds over the surface of the ground gives them little hope of germinating in most cases. Methods that permit seeds to become established in the upper stratum of the soil, particularly approaches that involve burying the seed, are certainly preferred.

After establishment, the seedlings should be fertilized with nitrogen, though not before 2 weeks have passed; this will reduce the competitiveness of Poa annua and permit more uniform establishment. (If Poa annua is not present at seeding time, fertilizer can be applied before overseeding.) On high sand content constructions where black layer is present, avoid fertilizers that contain sulfur, since it can contribute to undesirable hydrogen sulfide formation and subsequent metallic sulfides.

Gradually reduce the frequency of irrigation to harden the new plants and encourage deeper rooting. Depending on the sport, initial mowing can begin when the seedlings are 2-3 inches in height. Be careful to remove no more than 25 percent of the leaf blade per cut and vary the direction of each cut. Cutting must be done as cleanly as possible to avoid damage or bruising to the young turfgrass.

Let's take a quick look at the two main types of overseeders available, keeping in mind that some machines are pedestrian models while others are tractor or truckster drawn.

Broadcast type machines are useful for random seed dispersal and so are more commonly employed where large areas must be covered. Drawbacks include the fact that these units often do not work well on undulating ground; seed is often left on the surface; and heavy post-seeding watering may be needed.

Drill seeders capable of actually burying the seed after putting it into the soil are state-of-the-art. This type of seeder cuts a thin slot through surface thatch and into the soil beneath the seed is then dropped into the slot and the slot closed again guaranteeing seed to soil contact for every seed, affording high germination rates.

For fine turf overseeding, look for machines that offer accurate metering even when using fine bents and close drill spacing. **ST**

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