Renovating Your Lawn for Better Health and Appearance of Your Turf

Your turf is home to a lot of activity. Kids and pets romp around on the lawn. Golfers trample over your fairways. Football players run plays up and down your fields. The sun beats down on the grass, and drought can reduce the amount of water available to the root zones. All in all, traffic and environmental stresses take a toll on the appearance of your lawn, sometimes leaving behind weak, thin turf in need of some help.

Turf Renovation

Renovation, restoration, and rejuvenation have been used interchangeably by many in the industry. Renovation for this purpose will be improving turf with at least 50% cover and restoration will be for a reboot. If less than 50% of the lawn is damaged and there's still some existing turf to work with, a renovation will improve grass density and appearance. This process allows existing grass to thrive while filling in large areas where thin, damaged spots or bare patches have appeared. As long as the area is not completely bare, this option will revitalize the turf and enhance the grass density.

Fall is the ideal time for lawn renovation, but it can be done in the spring. Springtime renovation revitalizes existing cool-season grasses, like Kentucky bluegrass, tall fescue, or perennial ryegrasses which sustained damage or loss due to winter conditions. Competition from annual summer weeds and environmental stress can make a spring renovation more challenging.

In extreme cases where turf loss is greater than 50% some may choose a full restoration where non-selective herbicides are used to kill remaining grasses and weeds in order to completely reseed for a new lawn. Of course, this is the most radical of operations and should only be conducted with widespread turf loss or opting to grow a newer, more tolerant lawn.

Preparation is Key

Due to the costs and time commitment associated with renovation and overseeding, thorough preparation is key. It may include figuring out the right timing, soil testing, aerating, mowing or scalping, improving sunlight to the area through pruning or thinning surrounding trees and ornamentals, applying soil amendments and correcting any issues that may come up.

Timing is crucial to successful seed germination. Planting too early or too late will lengthen the time it takes seeds to germinate or may prevent them from germinating entirely. Exact timing varies based on several factors, including grass species, geography, and climactic conditions.

In cool-season markets where renovation is the predominant practice, seeds germinate best when the soil temperature average is between 60 and 85°F. Typically, this occurs from the beginning of September through mid-October in northern regions, while the mid-Atlantic and southern regions may experience these conditions later in the year. These temperatures are good baselines but make sure to research your specific part of the country and turfgrass species before starting. Cut-off dates will vary by region by the first local frost dates.

Overseed For the Winter

Maintaining a green lawn during the winter means overseeding with a quality cool-season seed that provides consistent results. Higher quality seed shows near-zero percentages of non-seed material, which may include crop seed, inert matter, weed seed, or noxious weeds. A three to four seed blend is commonly used for consistent germination, texture, and density for winter lawn enjoyment.

When **overseeding** in the fall, a good rule of thumb is to wait until overnight temperatures consistently drop below 65°, and the existing bermudagrass growth slows and begins losing color.

Starting with the root(s) of the matter

Strong, vigorous plants start in the soil, so having healthy soil contributes to your success. Soil tests tell you what's in the soil and what needs to be attended to. Soil type, pH level, and nutrients in the soil each play an important part in plant health and growth. Soil testing removes the guesswork for applications of fertilizer, lime, and other soil additives. Soil that's too acidic or alkaline can impact nutrient solubility and the uptake of nutrients, causing deficiencies of nutrients vital to plant development. A pH range of 6.0 to 7.0 typically creates the right environment for optimum nutrient availability.

The process of soil analysis begins with obtaining samples and a soil probe is generally the best tool for the job. There are a couple of tips to consider. Try to submit soil from a two to four-inch depth as this will be the best representative of the area where the roots will be growing. Also, remember the old rule of "garbage in, garbage out." Because this is a soil test, do not include thatch, plant material, or other foreign items because they might skew the test results. Once you have your soil sample, you can send it off for testing. Ask your local supplier if they offer soil testing services through regionally based laboratories. Also, be sure to note the crop (turfgrass) and species intended to be grown in the area. Once the results are returned, they will show levels of vital nutrients, pH, and a host of other statistics that will spell out what needs to be done. Often the lab will accompany those results with some recommendations specific to what is being grown. Before planting seed is the time to make those adjustments.

Seed Selection

The next step in either overseeding or renovation/restoration is seed selection. This decision encompasses many factors including regionality, usage, microclimates and site-specific dynamics, desired maintenance level, and appearance expectations. While it may be initially cheaper to buy a bag of lower-grade seed, it will pay off in the long run in terms of turf performance to select seeds with high-performance, improved cultivars. One can dig deep into the performance of certain seed varieties based on specific traits, stress and pest resistance, and overall aesthetic value by looking them up on the NTEP (National Turfgrass Evaluation Program) website. However, many of the seed blends and mixes provided by trusted distributors are improved varieties for color, stress tolerance, vigor, density, texture, and many other critical factors already. Pay special attention to A-LIST® (Alliance For Low Input Sustainable Turf) approved seed. These varieties have been certified as requiring fewer inputs including water, fertilizer, pesticides, and are more heat tolerant. These are great products for an outstanding lawn with less maintenance. The other thing that you may encounter when researching seed is Blue Tag certification. This denotes variety purity and assures the buyer that what the tag states for contents is in the bag: however, it implies no guarantee of seed quality or performance. Whatever decision is made, this will serve as a great time to select improved cultivars of seed which are better suited for the area to be grown in, more tolerant of environmental and pest pressures, as well as top quality playability and aesthetics. The seed label or seed tag on the bag can provide a wealth of information about the type of seed and what to expect.

Every bag of seed is legally required to feature a seed tag and must contain the following:

- Varieties and kinds of seed in the bag
- Pure Seed: the percentage by weight of each variety
- Germination Rate: germination percentage by seed variety for the different seed blends contained in the bag
    - Other Crop Seed: other seeds that comprise 5 percent or less of the bag

- Inert Matter: non-seed materials including mulch or fertilizer
- Weed Seed: percentage of weed seed contained in the product
- Noxious Weed: number of noxious weed seeds contained per pound (regulated and may be restricted by state)
- Lot Number: production lot identification number
- Test Date: germination test date
- Sell By Date: sell -by-date, varies by state

The last critical step before starting the process will be irrigation preparation. The number one limiting factor in seed germination and establishment is water availability. Newly seeded areas should be kept damp consistently through the entire term of germination and emergence. This is done with brief water cycles several times per day. It is of extreme importance to follow this rule and not let seeds dry out or become overly saturated. Preventatively inspecting irrigation systems for those that have them will pay off prior to applying seed. Others should have a plan for watering which includes sprinkler and hose purchases otherwise they risk loss of seed and a job failure.

Products to improve your success rate

Several additional products can greatly improve your ability to achieve the lawn or playing surface that you are striving to achieve. First and foremost is fertilizer. Newly germinated seeds and young seedlings greatly benefit from having a good source of phosphorus so often a starter fertilizer is used at the time of seeding. Starter fertilizers have an ample load of phosphorus or middle number in the fertilizer analysis. A commonly used material is 18-24-12, but several other similar products will suffice. Depending on budget restrictions, some may stop there. If the goal is to greatly improve the emerging turf or take it to the next level, there are some additional products that may help.

Studies have shown that seaweed-based materials will accelerate seed germination and establishment. EMPRO Kelp Complex is loaded with kelp along with humic acid and a whole host of other plant-beneficial nutrients. Many of these components greatly enhance the newly planted seed's ability to become a dense, healthy, stress tolerant lawn which is the overall goal.

As mentioned earlier, water is a crucial limiting factor so having some assistance may be just what is needed. Hydretain can also be used at the time of seeding to help with moisture loss and the challenge of keeping seed damp throughout the day. Multiple studies have also shown that use of this product will shorten the time to germination and accelerate the establishment process while potentially reducing some of the reliance on supplemental irrigation and eliminating the risk of loss from drying out. The product will continue to work for about 90 days reducing water and helping to maintain a strong, healthy lawn.

Cover materials

Often newly seeded areas are topped with a cover material to help hold moisture and prevent loss to erosion or birds that are looking for a quick meal. Historically organic materials such as straw or peat moss have been used. Straw was inexpensive and worked well but it was an easy way to introduce weed seeds. Some of those weedy plants became a little bit more difficult to control as the turf grew in. Other options for cover materials include Kellogg Topper for moisture retention and added beneficial materials. Made from organic forest materials, compost, and manure it will work well for renovation and restoration success. In other regions, Profile Seed Aide CoverGrow pellets are used to supply nutrients and reduce moisture loss.

Physical Keys

From a physical perspective, one key must be kept in mind when proceeding with the sowing of grass seed. Contact with soil is crucial to survival. The seed that is allowed to rest in the thatch can quickly and easily dry out leading to failure. Also, the nutrients vital for survival will be found in the soil and not the thatch. Knowing this fact, the decision to physically incorporate the seed must be made and planned for. In scenarios where the thatch is non-existent, the surface can be raked or scarified to loosen the soil for good seed-to-soil contact. In other situations, a slit seeder may be used to slice the soil surface and drop seeds in the tiny slit marks. In other cases, dethatching or verti-cut machinery can perform the same function and will just need to be followed with the seed. Some will also opt for aeration, keep in mind, that more holes will provide more areas for seed to grow.

The next step is to spread the seed at the recommended rate evenly with a broadcast or drop spreader. For small areas, a hand spreader can be used. The goal to incorporate the seed into about 1/8 inch of soil for best results. If the area to be seeded is a blank slate or bare soil, it will be easy to cover the seed with loose dirt by just using the back of a leaf rake.

Overseeding Techniques

Most of the previous information was guidance for regressing or improving areas where cool-season turf is grown year-round, this portion will cover techniques for overseeding cool-season grasses into warm season grasses for winter color, playability, and aesthetics. This process is quite different and meant to be only temporary cover for dormant bermudagrass in the winter. Some of the processes can be stressful on the existing warm-season grasses so care should be taken to follow a good protocol. There are some key techniques to success some of which have been discussed already including the watering piece, and turfgrass selection, below are some other steps that can be followed to develop a winning strategy.

1. Timing is best when daytime temperatures are between 80 and 85°F and nighttime temperatures about 55°F
2. 30 days prior overseeding – stop nitrogen fertility
3. 14 days prior – raise mowing heights 30% - 40% and reduce irrigation by 1/3
4. 1 to 3 days prior - stop watering, mow at 25% below the original height, or scalp the lawn. Clippings can be used for mulch over new seed
5. Overseed
6. Water 3 – 5 times per day to keep seed damp
7. Fertilize 2 weeks after emergence; some will use ammonium phosphate 16-20-0
8. Start your plan for spring transition – killing cool-season grasses to favor warm-season grass growth.

Bermudagrass performs best when it has at least 100 days of active turf growth during the summer so keep a keen eye on the calendar, don't overseed too early, and don't allow the cool season grasses to linger too long into the spring. The bermudagrass season is said to start when nighttime temperatures are above 60°F for 7 straight nights so plans for transition herbicides should be in place for applications to begin when nighttime temperatures are 50 - 55°F for a week. Of these herbicides, Monument and TranXit are the most rapid kills followed by Revolver then Manor. Make sure to read all pesticide labels before use.

Seed Rates

The last item to keep in mind is accurate seeding rates. While it may seem like a good plan to use more seed than necessary, it doesn't always work out for the best. When too much seed is used in a permanent turf situation there can be a case of too many seedlings per square foot or inch. This still sounds ok, but these young plants will be in constant competition for sunlight, water, and nutrients which leads to a scenario where it will take longer to mature if they do at all. This leads to the plants being far more susceptible to pests and environmental stresses, often resulting in turf loss. Below are some general recommendations for seeding rates.

PERENNIAL RYEGRASS

New turf 7-9 Lbs. per 1,000 square feet
or 300 – 400 Lbs. per acre

Winter overseed rates

Golf greens – 30 Lbs. per 1,000 square feet

Golf fairways and tees – 10 – 16 Lbs. per 1,000 square feet
or 450-700 Lbs. per acre

Sports fields and roughs – 6 to 10 Lbs. per 1,000 square feet
or 250 – 450 Lbs. per acre

Home lawns – 12 to 15 Lbs. per 1,000 square feet

TURF TYPE TALL FESCUE

New turf – 8 – 10 Lbs. per 1,000 square feet
or 350 – 450 Lbs. per acre

Repair rate – 6 – 8 Lbs. per 1,000 square feet

KENTUCKY BLUEGRASS

Commercial Sites/Lawns: 2-4 lbs. per 1,000 square feet
or 100 – 200 Lbs. per acre

Athletic Fields: 3-5 lbs. per 1,000 square feet
or 150 – 250 Lbs. per acre

Congratulations! Now the newly renovated or overseeded lawn is ready for the upcoming season. If there are any questions, contact your local Ewing branch for details including information specific to turf and products in your region.