

News & Views

for New Hampshire's Green Industry

April–June, 2004

TURF ESTABLISHMENT IN EARLY SPRING – A CHECKLIST

Turfgrasses seeded in cold soils of early spring generally establish satisfactorily with time, but germination rates will be slow. In fact, it can take up to 3 weeks before Kentucky bluegrasses germinate when soil temperatures are still in the 40s and low 50s. On the other hand, sod (which is predominantly Kentucky bluegrass) roots quickly in cool soils, which makes sod installations in early spring and throughout the fall attractive options.

Here's a few check points for successful early spring turf seedings:

- 1. Prepare the soil properly.** The final surface should be firm yet non-compacted to insure good seed to soil contact. This is important for new seedings and those worn and damaged areas being overseeded.
- 2. Have the soil tested.** A soil test will measure the soil pH and nutrient status. Most turfgrasses prefer a soil pH between 5.5 and 7.0. Most soils in New Hampshire are below these desired levels and can be so acidic that rooting and overall turf vigor is drastically impaired. Lime increases soil pH. Since lime is quite immobile in soil and slow to react, the best time to lime is prior to seeding or sodding. Mix thoroughly into the upper 4 to 6 inches for best results.
- 3. Fertilize.** Apply fertilizer based upon the soil test report. Starter-type formulations (i.e.



10-20-10) help promote early seedling vigor and hasten establishment rates. Organic and manufactured slow release nitrogen sources will generally last longer than inorganic types, but will be slower in releasing nitrate (form of nitrogen mostly taken up by turf roots) in cold soils.

- 4. Choose the right seed mixture.** Turfgrasses vary, sometimes considerably, in their ability to tolerate shade, traffic, wear and environmental stress etc. Each grass has its particular stress and weakness. Since the ideal grass has yet to be developed, save money, time and get better results by choosing the best seed mixture or blend for your particular situation.
- 5. Apply seed uniformly and rake into upper ¼ inch.** Seeding rates between 3 and 5 pounds per 1000 sq. ft. are common for most lawn mixtures. Broadcasting seed over the surface without mixing into the upper ¼ inch of soil is a common mistake. Seed left on the

surface often dries out, is picked up by the mower or simply washes away after a heavy rain. Light rolling after seeding helps insure improved seed to soil contact and better establishment.

- 6. Irrigate to keep soil surface moist.** This applies to seedlings made throughout the year. Seeds need to absorb water to germinate. Cooler temperatures and slower evaporation rates in early spring reduce the need to irrigate compared to mid-summer seedlings.
- 7. Apply mulch?** Mulch (usually straw or paper) helps conserve soil surface moisture and

prevents erosion on slopes. If a straw mulch is used it should be weed free!

- 8. Control weeds.** Weeds are often more aggressive and germinate faster than turfgrass seeds. Weed invasion can be a serious problem for new seedlings made throughout the year. Early spring seedlings are particularly vulnerable to crabgrass encroachment. Herbicides to prevent crabgrass are readily available on the market. Read the label before buying, since most products prevent the germination of both crabgrass and the desirable turfgrass seeds.

John Roberts



Healthy Roots, Healthy Trees; The Importance of SGR's

Roots perform many vital functions and have a profound effect on overall plant health. Most people think of tree roots as an anchor, growing straight down. In reality, most tree roots are located in the top 6 to 24 inches of soil and occupy an area 2 to 4 times the diameter of the tree crown. Loosening that soil at planting time aids in future root growth. It's now also common knowledge that many trees develop problems that shorten their lifespan because they are planted too deeply. Also of concern are roots that might girdle the main trunk or stem as they develop. Known as stem girdling roots (SGRs) these roots encircle or grow next to the stem of a tree and cause bark and wood tissue compression. Tree roots that grow over each

other or graft are not known to be associated with plant health problems.

Why is that important? In addition to anchoring plants, roots transport water and minerals from the soil to the rest of the tree. Water and minerals are used to manufacture carbohydrates which are then stored as reserves in the root system to produce spring foliage. Over time, SGRs interfere with this transportation system.

Above-ground symptoms often take 15 or 20 years to show up and most often include stunting of the foliage, decreased annual twig growth and a smaller trunk diameter. Most deciduous tree trunks normally flare or expand near the ground. Trees suffering from girdling roots often lack trunk flares, going straight into the ground like telephone poles. Trees with stem girdling roots also often lean to one side and may have leaves that are scorched along the edges. Frequently, tree stems will break off at the compression points in their stems during a windstorm. Above the point of breakage, the stem often looks like a pinched balloon.

It is difficult to diagnose SGRs as the leading cause of tree health decline or premature death. The symptoms are also characteristic of other causal agents like drought, flooding, nutrient disorders, accumulation of deicing salts and/or cambial death from cold temperatures.

SGRs are not always at the soil surface and easily diagnosed. It frequently requires a root collar examination to reveal SGRs. But when below-ground examinations are performed, the



Photo: Minnesota Cooperative Extension

frequency of SGRs associated with tree decline and failure is high. SGRs have been observed in 56 tree species and genera, most commonly on Norway, red, silver and sugar maples and littleleaf lindens.

Prevention of SGRs begins at planting. For bare-root nursery stock, examine the root system and remove encircling or “J” roots that could eventually compress stem tissue before planting.

When plants are held too long before planting they often develop root systems that can threaten future plant health. This happens because roots are often forced into an encircling growth pattern when trees are grown in containers or held as balled and burlapped stock. In the landscape, the encircling roots can eventually enlarge, compressing (girdling) the stem and damaging bark and wood tissue. To prevent this inspect trees before planting, and either straighten or remove encircling roots. Also be sure to plant so that there is no soil placed on top of the root ball when planting. When the root

collar flare and stem are above the soil surface, developing SGRs are easy to detect and treat before they cause significant damage to the tree. If trees are then planted too deeply, it is often impossible to detect development of SGRs. There is also some observational evidence that planting too deeply increases the incidence of SGRs.

The two most common treatments for SGRs are tree removal or removal of the offending roots. Roots can be partially or completely removed with saws, pruners or wood gouges. When SGRs are partially embedded in the stem or causing severe stem compression and cannot safely be removed, they may be left in place. If more than one-third to one-half the stem circumference is affected, and tree stability is an issue, it may be safer to just remove the tree. Where tree stability is not a concern, the solution may be to plant new trees near SGR affected trees in anticipation of their eventual death.

Margaret Hagen



N.H. Horticultural Industries Council

Representatives from several horticultural trade associations came to the Univ. of New Hampshire on March 10 to explore the formation of a Horticultural Industries Council. Initiated by Rick Simpson, President of NH Plant Growers Association, and Extension Specialist Cathy Neal, the council is seen as a vehicle for promoting communication and facilitating action on issues of common concern. Discussion touched upon many common challenges and opportunities such as legislative and regulatory action, membership recruitment and member benefits, support for education and extension, and visibility and promotion of the horticultural industry.

Top row (left to right): Karen Johnson and Mick Sheffield, NH Landscape Association; George Pellettieri, Granite State Landscape Architects; Rick Simpson, NH Plant Growers Association; Stan Swier, Paul Fisher, Geoffrey Njue and Cathy Neal, UNH Cooperative Extension; *Bottom row:* Larry Fay, NH Arborists Association; Erick Leadbeater, NH Fruit Growers Association and NH Horticultural Society, Valerie Dawes, NH State Florists Association, and John Roberts, UNH Cooperative Extension. *Not present:* Rob Johnson, NH Farm Bureau Federation, Phil Ferdinando, NH Veg and Berry Growers Association, and Alan Hineman, NH Golf Course Superintendents Association, Bruce Clement, UNH Cooperative Extension. *Photo:* George Hamilton.



Time to Soil Test!

The good news is – Cooperative Extension has undertaken the chore of updating all of our soil test recommendations and implementing a new web-based system for reporting soil test results. The results, based on our Extension Specialists' knowledge of the crops and N.H. growing conditions and environmental concerns, will be more precise, more understandable, and more specific to your needs. The plan is for the new system to be up and running early this summer; meanwhile, the older system is still functioning.

Greenhouse and nursery growers and landscapers should know that your commercial soil tests currently are individually reviewed by the appropriate Specialist (Cathy Neal or Paul Fisher), who add customized recommendations to each and every test. We can't provide this individual service for home grounds or garden samples due to the volume of samples, so those recommendations are computer generated based on the test results. Therefore, be sure to use the appropriate commercial soil test form (on line at <http://www.ceinfo.unh.edu/Agriculture/>

[Documents/SoilTest.htm](#)) rather than the homeowner form. On the other hand, if you are referring your clients to have soil tests done, direct them to the proper homeowner form. Directions for sampling are also on the forms.

Speaking of homeowner samples, we are making an effort to increase homeowner soil testing and reduce inappropriate fertilizer use. We are in the process of designing a small counter-top display which holds prepaid soil test kits which garden centers can sell to their customers. There will be two types of kits, clearly marked as "standard" or "organic". We want to make these displays and kits available at the same time as we make the transition to our new and improved reporting system. Stay tuned.

The UNH soil testing lab is open and awaiting the flood of spring samples. Due to budget cutbacks, the staff time has been reduced and the turn-around time may be a few days longer than in the past. Avoid the rush and take soil samples now. You'll have the results back in a week to 10 days, in plenty of time to purchase and apply the recommended fertilizers.

Cathy Neal



June 23 NHPGA Spring Twilight Meeting – Rolling Green Nursery, Greenland.
Contact: 603-292-5238 or nhpga@comcast.net

This newsletter is a cooperative effort of the Ornamentals Extension Educators and Specialists at the University of New Hampshire. It is published quarterly. It's purpose is to inform and update industry members on issues and research relevant to the production, use and maintenance of ornamentals and turf in New Hampshire. Contributors for this issue:

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