

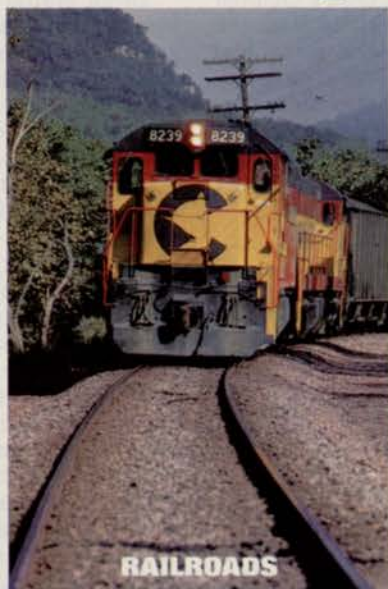
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YOUR CORNERSTONE OF VEGETATION MANAGEMENT

Circle No. 237 on Reader Inquiry Card

and Will Puffer of Hoechst Fiber (maker of Warren's fabric) put their heads together for Jackson's October 19 and 20 dates at Cleveland Stadium.

With an NFL Browns game just days away, Frey and Puffer came up with a nonwoven geotextile cover made of polyester. Frey applied pre-germinated perennial ryegrass seed to the playing surface prior to laying

It takes uncovered greens three weeks to catch up to covered ones in the spring.

135,000 square feet of the light-colored, needle-punched material which is now being marketed by Warren Turf under the name *TerraCover*.

Although conditions were ripe for another turfgrass disaster ("we had five inches of rain before and during the concert," Frey recalls), the grass was basically undamaged after four days under the cover. Surprisingly, new grass had germinated, some of it growing to a 1/2 inch.

"There was darkening of some of the leaf but the crown of the grass plants were undamaged," Puffer says. "Of course we were very happy with the project. We came up with something that is durable, breathable, and survived the rigors of the concert. Furthermore, the cost of the fabric delivered is less than the cost of plywood."

The same cushioned fabric that Frey used was shipped to the Orange Bowl in Miami and to Phoenix for later Jackson stops, again with heartening results. Those successes have led Frey, and others, to experiment with *TerraCover* in the players' area along the sidelines and under television camera tracks.

Faster greenup

Using geotextile covers (the word geotextile includes just about any product that covers the ground) to protect grass is no secret to golf course superintendents. In the far north where cold, dry winds rake exposed greens some superintendents have been using covers for several years to reduce desiccation and winter kill. Several, however, are testing the effectiveness of the various new products to determine if they can be used for a faster spring

greenup of healthy turf and, hopefully, a longer season.

Doug Mahal at Interlochen near Minneapolis has been covering the greens on his course with excelsior mats by American Excelsior since 1977, but this season he's putting down *TerraShield* by Warren Turf and *Reemay* also. Jerry Nelson at the Somerset Country Club near St. Paul has been testing eight different covers on 8-by-12-foot plots, while Mark Smith at the Minneapolis Golf Club covered a third of his greens with *Reemay* last winter and will be doing some work with *TerraShield* also this winter.

The covered turf "comes out looking a lot better in the spring, but after three weeks the uncovered turf has generally caught up to it," says Smith. Others report similar experiences with covers. Nelson reports greener turf under all his test plots. "It's all in varying degrees," he says.

Since heavy snow blanketed much of the north last winter many of these same superintendents are anxious to determine how their blanketed turf responds to icy conditions.

Several precautions are necessary

"There are significant opportunities in the Green Industry for properly designed fabrics that meet particular needs."

— Puffer

prior to laying and anchoring covers over greens, however, the superintendents say. First, the greens should be well drained and, equally important, fungicides should be applied to reduce disease pressure. Timing of the cover's installation and removal is also important. Grass should be dormant when they are applied, superintendents say, and covers should not be left on after regeneration has begun in the spring. Too much growth is undesirable.

Getting turf blankets to stay put can be a problem also. Central Indiana landscaper Larry Runyon wanted to make sure his covers didn't blow away. In addition to the U-shaped fasteners which came with the fabric, he anchored and criss-crossed 18-gauge wire every 10 feet over the covers of two football fields he seeded this winter.

Runyon is going a different direction with the geotextile covers he uses.

Runyon is using DuPont's spunbonded polyester *Reemay* in hopes of getting a jump on spring in the seeding of the two grass practice fields at the Indianapolis Colts' new 30-acre training facility just outside Indianapolis. Because of construction delays Runyon wasn't able to seed the fields until December 5.

He is hoping that *Reemay* helps retain moisture and warms his ^{50/50} mix of Kentucky bluegrass/ryegrass enough to give him a month headstart in preparing his fields for the Colts. He chose the DuPont material because it was translucent. "It's definitely going to let the sunlight in and I'm hoping for that good green color," he says.

While several of the products are translucent and allow light to penetrate to the turf, several are not. Duon by Phillips 66 is a dark gray and its promoters believe it may promote protection and early green up by raising the soil temperature somewhat.

Research needed

Initial research in the use of covers for germinating grass seed has been spotty and inconclusive. Clemson horticulture professor Landon Miller had little success with growing grass both over and under continuous filament spunbound polyester covers during 1984 and he's repeating his research on five different varieties of grass with broken filament spunbound material this year.

A test by Don Marshall using *Reemay* at Anaheim Stadium in Southern California to lengthen the growing season of Bermudagrass into December had to be cut short because of torrential rains and the return of the NFL Rams to Anaheim for a playoff game. Or as Marshall notes, "basically, the test amounts to no test."


But, designers and manufacturers of the new generation of turf covers remain optimistic about the potential uses of their products. The challenge seems to be matching the correct product with the specific use.

"There are significant opportunities in the Green Industry for properly designed fabrics that meet particular needs," Hoescht Fiber's Puffer says. "The challenge then clearly rests with the industry to meet the needs and produce those products. They must meet the challenges of the application rather than making one product for all applications."

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Timely response can save native pines

If native pines around your home or development are dying, the problem may be traced to either pine decline, insect attacks, or disease, according to Wayne P. Blythe, Vero Beach, FL, director of Native Resources, the environmental division of Vista Properties. He directs his advice to others, like himself, who are responsible for preserving the beauty of pines, particularly in the Southeast.

Pine decline, characterized by the gradual yellowing and dying of pines, can be caused by over irrigation, or by irrigation from wells with a high calcium concentration which raises the soil pH. Irrigation from storm water retention ponds in high fertilization areas such as golf courses also contributes.

Sometimes only simple precautions are needed to remedy the problem, Blythe notes, like reducing irrigation near pines by redirecting

sprinkler heads, or using only ammonium sulfate or other acid-forming fertilizers to prevent a rise in soil pH.

To achieve a quick green color as a temporary solution, Blythe recommends four lbs. of flowers of sulfur per 100 sq. ft., 10 lbs. aluminum sulfate per 100 sq. ft. or one lb. iron chelate per tree.

Insect attacks—either trunk or crown infestations—can create big problems and call for immediate action, Blythe says.

Engraver Beetles (*Ips gradicolis*, *Ips calligraphus*) and Black Turpentine beetles attack pine trunks, and are found throughout Southeastern forests. Usually the first indication of attack are small masses of pitch (called pitch tubes) and boring dust on or around the trunk of the tree, followed by browning of the needles. Another form of bark beetle attacks the branch area of the tree. Pitch tubes of these

beetles are often small, and experienced spotters or binoculars are usually necessary to detect them. If the tree is healthy, attacks by bark beetles may not be successful.

Beetles are attracted to pines which have either been cut or placed under stress. This stress can be natural such as a flood or drought, or man-made, equipment wounds, excess irrigation, or pH change.

Blythe recommends the following steps to control insects:

- 1 Leave the native understory plants undisturbed near the pines.
- 2 Downed pines should be cut up and removed immediately.
- 3 Pines injured during clearing operations should be sprayed with appropriate insecticide.
- 4 Severely infected trees should be removed immediately.
- 5 Trees cut up for firewood should be stacked away from living pines. Spray the firewood with insecticide.

In spraying, Blythe recommends 0.5 percent Lindane or 1.0 percent chlorpyrifos (Dursban 4E), with Lindane getting the nod for preventative treatment, chlorpyrifos for post infection treatment.

Disease problems are often harder to detect than insect pests, but in the Southeast be on the lookout for pitch canker and needle cast.

Canker, caused when spores of the fungus enter the tree through a wound, is the more serious. Symptoms include branch and terminal flagging and the flow of pitch from the infected area. Blythe feels pruning infected branches well below the infected area is the best response. In severe cases the tree should be removed.

The unseasonal shedding of needles or shedding in an excessive amount could signal the presence of needle cast. A magnifying glass or hand lens often reveals small black elliptical fruiting bodies of the fungi on the fallen needles. No control measures are recommended since this problem rarely kills a tree, Blythe notes, and infections usually occur long before symptoms are evident and then it's useless to apply fungicides.

Blythe says pines should be examined at regular intervals for timely pruning and removal of unhealthy specimens. This reduces the need for removal of trees and maintains the aesthetic quality of the environment around you.



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MARCH 1985/WEEDS TREES & TURF 105

PROBLEM SOLVERS

by Balakrishna Rao, Ph.D

Tender loving care

Problem: As part of recent street improvement projects, large trees (maple and locust) have been planted in a four foot by four foot sidewalk opening. Will these trees ever mature to their natural dimensions; will they be suppressed; will they die in the future? (Ohio)

Solution: It would be difficult to expect the plants to grow and mature to natural dimensions as they would in their natural environment (niche) because of the new and restricted four foot by four foot root area in the sidewalk.

The root system and the shoot system of plants are in equilibrium. Restricting root growth will proportionately restrict shoot growth. Studies have shown that it may take two to five years for most plants to establish after transplanting. During their recovery period they are very sensitive to environmental stresses which can then predispose the plants to insects and/or diseases.

Under these conditions, plants will be suppressed; however, to what extent depends upon the proper care given to the plants during and after planting. Some of the factors which affects plant health are soil, organic matter, soil acidity, aeration, water-holding capacity, drainage, and proper watering and fertilizing practices. Observation pipes installed in the ground within the dripline should help you monitor the drainage condition.

With proper cultural practices and other plant health management approaches, the plants should have a better survival potential, so consider giving all tender loving care to help improve the vitality of your plants.

Poast controls bermudagrass

Problem: A new product called Poast is being tested for use in controlling bermudagrass in woody plant beds. Have you heard about this? Would appreciate your comments in this regard. (Maryland)

Solution: Yes, Poast, a postemergence herbicide manufactured by BASF Chemicals Company, can be used to control bermudagrass in woody plant beds. Poast is a new, systemic, selective herbicide which can be safely applied at the recommended rates to control annual (1 pint per acre) and perennial (2 pints per acre) grasses such as bermudagrass, quackgrass, etc., in ornamental plants or ground cover growing areas. BASF representatives indicated that grasses growing up to six inches in height can be satisfactorily controlled with one pint per acre.

The material will be absorbed by the actively growing foliage and translocated to roots, eventually killing the plants.

Reportedly, there will not be any soil residual activity of the herbicide or any injury to broadleaf plants, including ornamental plants. Depending upon geography and climatic conditions, treated grass plants may discolor first and then die within two to three weeks. Since there is no soil residual activity, repeat application may be necessary if grass plants present a problem later in the season.

Inorganics and microorganisms

Problem: Does inorganic fertilizer kill or tend to destroy microorganism activity in the soil? Is organic fertilizer better for the long term life of soil? (Wisc.)

Solution: Application at the recommended rate of either inorganic or organic fertilizer to soil should not have any direct effect on microorganisms.

However, if over applied, fertilizer may affect the soil pH or release excessive salts which may injure the root system of plants. This may then affect the plant, soil, and microbial ecology. Natural organics such as sewage sludge or milorganite application may temporarily improve soil structure which, in turn, can be favorable for microbial activity.

Wood mulch still best

Problem: Will the replacement of bark mulch with 1 3/4 inch stone in shrub beds cause any long-term problems with shrub growth and development? Plantings are made up of mostly pines, yews, junipers, azaleas and rhododendrons. (Maine)

Solution: A review of information relevant to your question indicates that there isn't a simple "yes" or "no" answer. I've seen stones, pebbles, gravel and other inorganic materials used as mulch, but I'm more familiar with the organic mulches, ie. wood and bark chips.

My observations are that when rock mulch is used there usually is a sheet of plastic film beneath it. The plastic, usually black in color, is for weed control and it may cause problems for woody plants. I often find poor aeration and too little or too much moisture in the underlying soil.

Poorly aerated, wet soil plus the root and collar rot organisms commonly found under such conditions can cause root loss, reduced growth, and/or death of the entire plant.

When the rock mulch has been in place for several years it is, in my opinion, not very attractive because weeds and other things grow in or on the litter that accumulates among the stones.

With most organic mulches such debris simply blends in. The appearance of bark-mulched beds can be easily improved by a top dressing of fresh material.

Renovation of rock-mulched beds means removing the existing layer of rocks, putting down new plastic and spreading around new or clean stones. Where black plastic isn't used weeds are a problem.

Herbicides often become the only means by which beds are kept free of these unwanted plants. Repeated contact with herbicides through drift and/or root uptake can injure or kill the desirable plants.



Balakrishna Rao is Director of Lawn Care Technical Resources for Davey Tree Expert Co., Kent, OH.

Questions should be mailed to Problem Solver, Weeds Trees & Turf, 7500 Old Oak Boulevard, Cleveland, Ohio 44130. Please allow 2-3 months for an answer to appear in the magazine.

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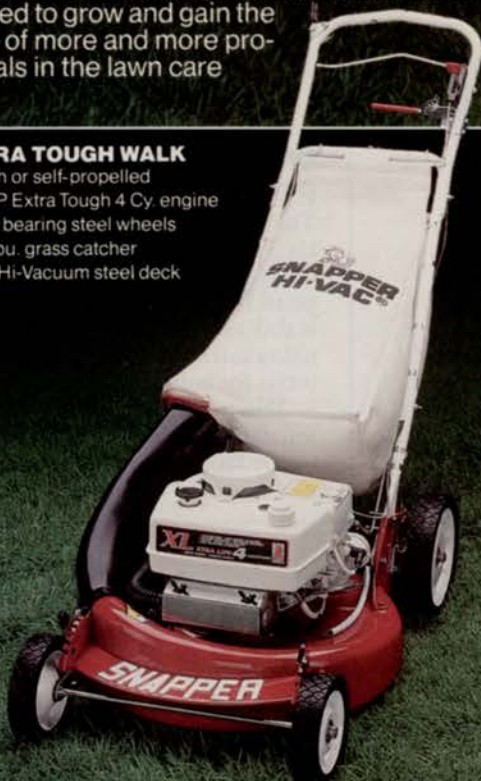
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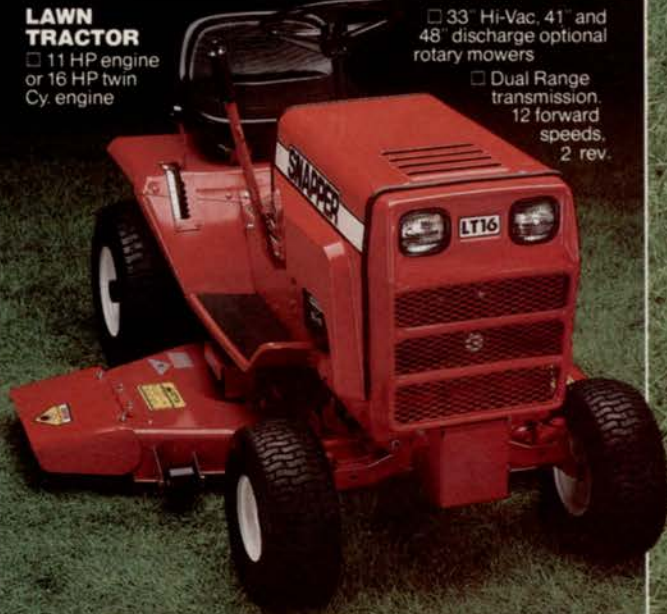
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Rodeo has herbicidal activity on many annual and perennial grasses, broadleaf weeds, sedges, rushes and

woody plants. Rodeo can be used to effectively manage both emerged and floating plants as well as ditchbank or shoreline aquatic weeds. Rodeo is not effective on plants which are either completely submerged or have most of their foliage under water. Application rates vary, depending on the weed species and its stage of development. The stage of maturity of the weed species to be treated is a primary consideration for obtaining best results.

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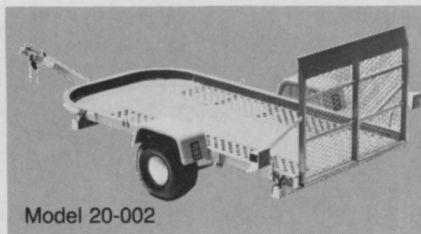
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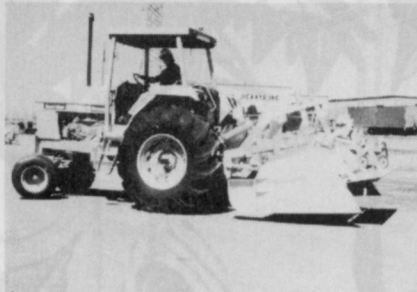
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Vermeer shows new TS-32S Tree Spade

Vermeer's new TS-32S Tree Spade is an economical unit designed to handle large volumes of shrubs and small trees (3 inch in trunk diameter) and



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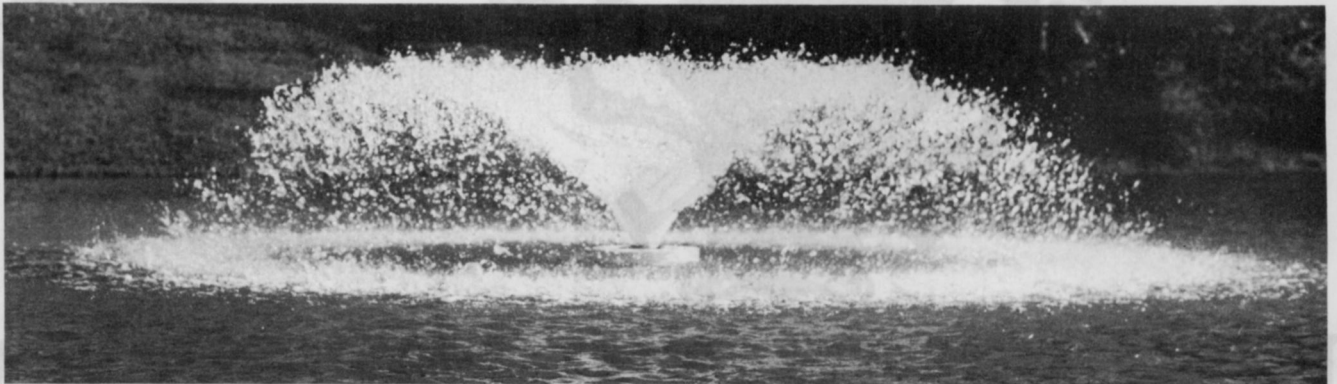
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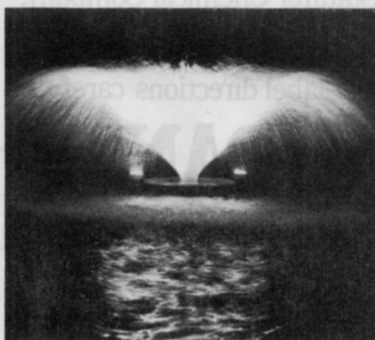
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