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U.S. Plant Patent 3151

Glade  
SUN 'n SHADE



# VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

**Q:** A number of our clients had problems late this summer with browning needles on blue spruce. These trees were not recently transplanted, and I could not find any diseases or insects.

**A:** It is very difficult (if not impossible) to diagnose a problem without seeing the plant. I can only relay to you the problems on blue spruce that were sent to our diagnostic lab in late summer.

Some herbicides will cause needle browning without also causing the needles to twist and curl. This is unlikely in your situation because of the apparent general nature of the problem, but it is one possibility.

Delayed symptoms of winter injury is another possibility. Although foliar injury is usually evident in the spring, the symptoms of root injury may be delayed until a drought occurs.

Cytospora canker is a fairly common problem on blue spruce. However, you should have noticed the bluish-white resin associated with Cytospora on at least a few of the trees.

We had a number of samples of blue spruce that were heavily infested with mites which you

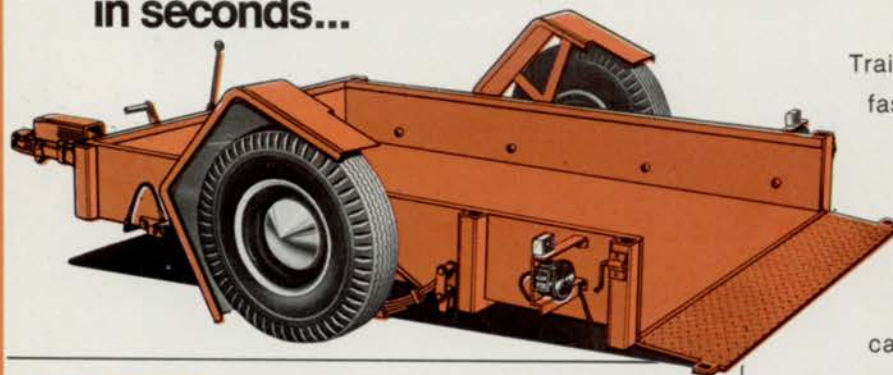
may not have seen unless you looked closely. The mites can be seen in the field with a 10X hand lens. The needles turned from yellowish-green to brown in a very short period. Apparently, applications of carbaryl for insect control killed the predators of mites and allowed a population explosion to occur, resulting in considerable browning and premature drop of the needles.

**Q:** We had a lot of problems this year with crabgrass. Are the pre-emergent herbicides becoming less effective?

**A:** Many areas in the Northeast and Midwest reported poor crabgrass control. However, I have not seen any evidence that the herbicides are at fault. We suspect that the delayed spring was partially responsible, but I'm still collecting data and talking with others in the lawn care industry and research for ideas. If any of the readers have suggestions, I will accumulate the information and report it in this column in the February issue.

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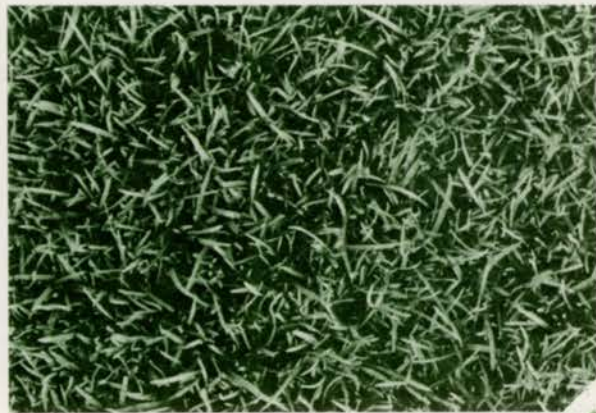
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mechanical burial and puts the furrows for natural seed burial much closer together. This produces a faster and more evenly distributed stand with no bare spots to fill in. **Which Saves Seed!** One healthy plant per square inch is all that is needed to produce an adequate stand of bluegrass. That's what the Meredith Seed Miser gives you. No waste, no seeds buried too deep to grow, and quality turf you'll be proud of (not to mention your delight at increased profits).

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# PROSCAPE

By Michael Hurdzan, Ph.D., golf course designer and consultant

**Q:** We have planted our new sand greens to bentgrass but the grass is not growing. What should we do? F.B., Knoxville, TN

**A:** The slow establishment of bentgrass on high sand greens is not uncommon and can be caused by several factors which results in an improper balance of air, water, and nutrient in the soil.

First, if the sand is of too coarse of particle size, then there are too many large pores and insufficient soil water is retained against gravity. Conversely, if your sand is too fine then too much water may be held not allowing enough oxygen to be retained in the root zone. The ideal soil mix should be 50% solid, 20% water and 30% air after gravitational draining. This ideal is usually approached by using sand commonly called Mason sand and with this general specification:

- 1) Not more than 10% (by weight) of particles over 2 mm size
- 2) At least 50% (by weight) of particles between 1 mm and .25 mm
- 3) Not more than 10% (by weight) of silt and clay particles
- 4) pH of between 6.2 and 7.0

When Mason sand is mixed with 20-25% organic matter (preferably peat humus), the mix is in the ball park for having proper physical characteristics. Even then newly seeded and mulched greens may have to be watered eight times a day for five to eight minutes on each cycle to have the proper moisture content to establish a green.

Another problem may be that your sand has chemical properties that limit plant growth such as an excessively high or low pH. In Ohio, almost all of our sands are of limestone parent material and hence have buffer pH's near 8.0. The opposite of this problem is those who have tried Fly ash, a by-product of coal burning steel industry and generating plants, which may have a buffer pH near 5.0. Since these are buffer pH's and are nearly impossible to alter, the turf manager must adapt a management regime that keeps the soil water or soil solution in the proper pH range to support growth.

The first thing you should do is send a gallon of your sand to Agri-Systems of Texas, Inc., P.O. Box 3757, Bryan, TX 77801, for testing and explain your problem. Perhaps if the problem is a physical one they suggest a means of correcting or improving the situation. Meanwhile, adjust your water schedule so as to NEVER allow the SURFACE of the green to dry out.

Secondly, if your sand drains well, apply  $\frac{3}{4}$  - 1 pound of N/1000 ft<sup>2</sup> per week (this spring) for 5 - weeks to replace the nutrient you leach out by the

above watering practice.

Thirdly, apply a micro-nutrient solution on a weekly basis for the first three weeks and then every other week until you are satisfied with the turf color and growth.

Fourthly, apply only those pesticides which are absolutely required by evidence of a specific problem. Routine pesticide application can contribute to a decline in seedling growth.

Lastly, do not open the greens for play until the turf has knitted tightly and the plants have a strong tillering activity.

**Q:** Our greens are primarily 1-1-1 (sand, peat, soil) mixture and poorly drained. What procedures would you suggest in hot weather particularly to develop deep rooting? Do you recommend light, frequent or less frequent, heavier watering? What about spring and fall care? K.D., Harlan, IA

**A:** The management philosophy of most successful turf managers is to grow deep roots in the spring and fall and simply try to survive during the hot weather. This is especially true on poorly drained greens. However even this winter and spring you may take active steps to grow deep roots.

A good personal friend of mine who is regional agronomist for a large lawn care company has convinced me that fall and winter fertilization have great value. His contention, which is supported by some university research and personal observation, is that chemical (not organics or synthetic organics) fertilizer applied to turf on even frozen ground is not lost but is rather utilized by the plant anytime soil and air temperature will permit growth. Root growth seems to continue at lower temperatures than does top growth. Therefore, in a warm winter or cool spring root development may be taking place while top growth is barely noticeable. I would not be afraid to apply 1-1½ of "N"/1000 ft.<sup>2</sup> of a farm grade material (10-10-10) in late November or early December if there is no snow on the ground. Then apply not more than 1 lb of "N"/1000 ft.<sup>2</sup> of a slow release product in May. Apply only supplemental "N" in the summer in the form of organics just to survive. Next fall apply about 1 lb. of N/ 1000 ft.<sup>2</sup> in early September and then back to the frozen ground application.

Secondly, I would suggest an aggressive top-dressing program with a pure, washed, fine sand as outlined in the May 1978 issue of WTT. This will help improve your poor drainage and encourage deeper rooting. Lastly, spring and fall you should water infrequent and deep and in the summer try to stay on the dry side with light waterings.



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# GRASS ROOTS

By Hal G. Dickey, North American Plant Breeders

*A new commentary on the turf seed industry to appear periodically. Hal Dickey is active in turf seed associations and follows seed trade news carefully as part of his job at North American Seed Growers.*

**Turf Seed Yield Losses** resulting from the wet September weather in the Pacific Northwest may carry over into next year's production. Growers are worried about increased disease risks in fields which didn't get burned. In Oregon where the normal burn would have been slightly more than 250,000 acres of grass seed fields, the wet conditions and harvest delays resulted in 100,000 acres not getting burned.

Field burning destroys seeds which have fallen on the ground. On the unburned acreages, weed infestations have therefore been more severe this winter and their control far more difficult than usual. Heavy crop residues and regrowth interfered with the effectiveness of normal herbicide applications. Weeds and volunteer crop seedlings

must be controlled, of course, for a field to qualify for certification.

The autumn harvest reductions will cost Oregon's grass seed industry seven to ten million dollars in lost sales, according to estimates by the state department of agriculture. The September rains caught some of the later maturing perennial ryegrasses in the field. But worst hit were the bents, the majority of which move into export. Against expectations, the Penncross harvest was said to be about 70% normal.

**PGMS Dues Policy Shift** announced at the Professional Grounds Management Society's recent annual convention in Indianapolis is proving controversy in some quarters. The new ground rules would require members of local chapters, of which there are now fourteen, to pay dues simultaneously to the national group. Adding local-only members to the roster of present dues-paying national members would result in 960 members, roughly double the national level of recent years, it was explained. As set by the national board of directors, the combined dues will be \$60.00 per year, \$15.00 of which will be rebated to the local chapter. "We surveyed the chapters and found



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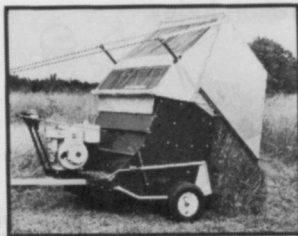


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their local dues average \$15.00," said Allan Shulder, PGMS executive secretary from Pikeville, Maryland.

Mr. Shulder answered questions at the October meeting of the Kansas City PGMS. Of 130 members in that chapter, he estimated that possibly ten belong to the national. Reminding his audience that he came to Kansas City two years ago and personally assisted in getting that chapter organized, Mr. Shulder said the national program and image enhances the effectiveness of the local groups.

Critics argue that \$60.00 dues will drive away many local members. "Half of our group consists of managers, officials, etc., who may be only indirectly involved with grounds management or have other areas of responsibility," one chapter officer told me.

Shulder said that ambitious national-level projects and inflation have forced PGMS to seek additional funds, which can best be raised by broadening the membership structure.

Key projects said to be nearing reality are an Apprenticeship Program for trainees and a Certification Program for professional grounds managers. If approved by the government, the work-study project would make federal training funds available to enrolled apprentices. The certification procedure, to be administered

through local PGMS chapters, would consist of a test of the applicants' knowledge of the principals of ground management, the equipment, materials, financial management, environmental considerations, etc., as well as the filing of a Site Inventory. This would detail the facilities, vegetative species, operational programs and resources for which the applicant may presently be responsible.

**How Many Turfgrass Varieties** are you looking at these days? Visiting the Western Washington experiment station this fall, we found Dr. Roy Goss and his colleagues planting the last of their turf plots. They had put in 55 varieties of bluegrass, 45 perennial ryegrasses and 43 fine fescue cultivars. These plots comprise the Northwest Regional trial site at Puyallup and Dr. Goss pointed out that this region limits its entries to varieties on the market or whose commercial introduction is regarded as eminent.

Dr. Bill Daniels of Purdue University did an inventory of the turfgrasses in all their tests and observation plots. In bluegrass, he counted sixty named ones and fifty experimentals. Their perennial ryegrass entries consist of 32 named varieties, plus 20 experimentals. Finally, there are 78 fescues, including 60 red and chewings types, as well as some tall fescues with potential turf application.

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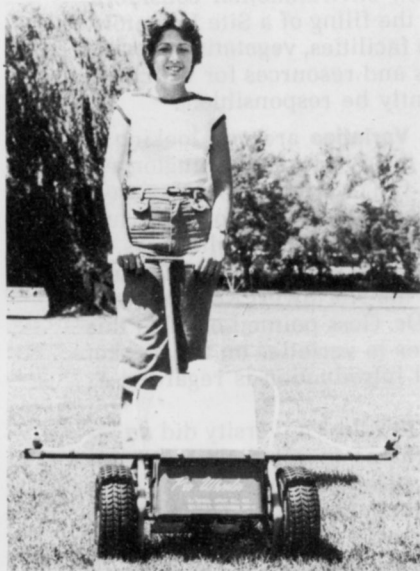
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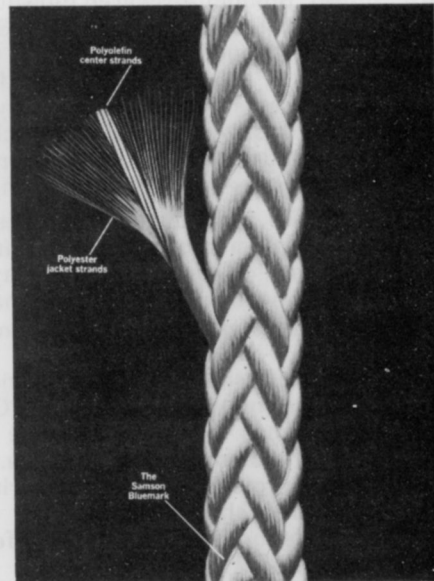
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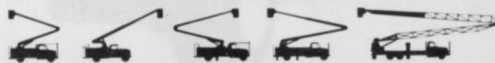
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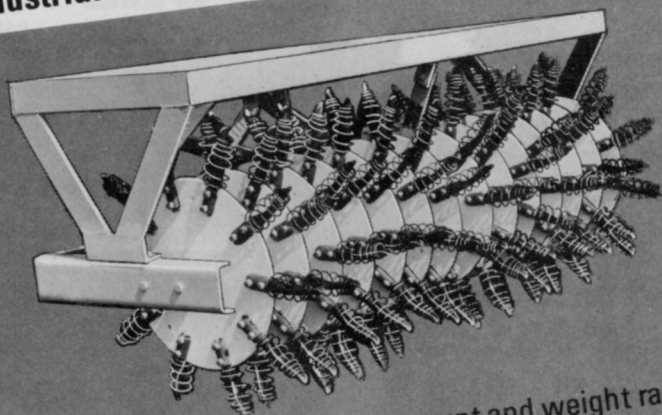
The attachment is available with an electric hydraulic power pack or can be hooked directly to some hydraulic systems.

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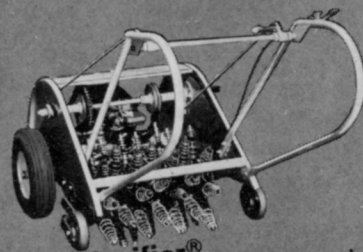
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11	12	13	14	15	16	17
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## APRIL

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## MAY

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3	4	5
10	11	12
17	18	19
24	25	26

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