

1986 PLCAA ProManager Seminar Series Focuses on Growth and Profitability

FACULTY

John Linkhart

Currently the owner/operator of Hart's Lawn Service as well as a senior consultant for AGMA, Linkhart was formerly the V.P. Operations for Perf-A-Lawn. He has been involved in every aspect of operations from both the standpoint of an owner as well as operating his division for a major national company.

Rudd McGary

A senior consultant with AGMA, Dr. McGary was formerly on the marketing faculty at Ohio State. He has been involved with marketing and management in the Lawn Care Industry for eight years, helping design both marketing and management systems for a wide variety of over 50 companies in the industry.

Bob Robinson

Robinson is a senior consultant with AGMA as well as running his own mulch company. Formerly Robinson was in charge of all agronomic programs for Chemlawn, which included both the selection of materials as well as assessing operating costs.

Ed Wandtke

Currently a senior consultant with AGMA, Wandtke was the Corporate Finance Manager for Chemlawn. A CPA, Wandtke works primarily in the areas of finance and accounting for AGMA with a broad-based background in all operating areas of lawn care.

The Professional Lawn Care Association of America announces the 1986 PLCAA ProManager Seminar Series. This new seminar series . . .

- Directly applies to your growth, your profitability.
- Is designed for the lawn care owner/operator.
- Is specifically tailored to green industry needs.
- Offers solid, detailed management guidance, professional techniques, and skills that yield immediate results.

The four separate seminars are:

MARKETING AND BUDGETING

- Dallas — January 6 - 8
- Newark — January 9 - 11
- Atlanta — January 13 - 15
- Cincinnati — January 16 - 18

This intensive two and one-half day seminar gives attendees a solid foundation in professional, proven methods for the ownership/management of a lawn service company. Course highlights include: • The Importance of Planning • Corporate Philosophy and Management • Marketing and Sales Planning • Sales Projections • Customer Retention • Cash Management • Budgeting Preparation • Cash Flow Statements

VALUING A LAWN SERVICE COMPANY TO BUY OR SELL

- Chicago — January 23 - 24
- Atlanta — February 3 - 4
- Philadelphia — January 20 - 21

Thinking of buying or selling a lawn care business? This two-day program offers professional guidance on how to get the maximum return when you sell, or the most for your money when you buy. Subjects covered include: • Planning to Buy or Sell • Evaluating a Company • Developing a Buy or Sell Strategy • How to Recognize an Opportunity • Determining a Price

SALES TRAINING FOR THE LAWN SERVICE PROFESSIONAL

- Baltimore — February 10 - 12
- Chicago — February 19 - 21
- Detroit — February 26 - 28
- Sturbridge, MA — March 3 - 4

Not a "natural born" salesman? Learn how to be something better — a professional salesman. This two and one-half day seminar supplies a solid understanding of the sales process and how to work with customers effectively. Among the subjects covered: • Marketing and Sales Preparation • Sales Psychology and Theory • Interviewing • Motivation • Closing a Sale

DEVELOPING AN ADVERTISING PLAN

- Atlanta — January 20 - 22
- Chicago — January 27 - 29

Effective advertising is crucial to success in the lawn care business. The objective of this two and one-half day seminar is to equip the owner/manager of a small lawn care company with the knowledge for making sound decisions in the advertising marketplace, including cost-effective choices and generating the highest response per dollar spent. Subjects covered include: • Choosing the Right Medium • Costs of Various Media • The Importance of Timing • Positioning Through Advertising • Projecting an Image Through Advertising • Consumer Behavior and Advertising

Advance registration: To register, mail the registration form below or call PLCAA at (404) 977-5222.

Arrangements for Attendance: Lunch is included in the registration fee for each full day of the seminar. All other meals and housing are the responsibility of each individual attending the seminar. Travel and lodging information will be provided upon receipt of registration form.

REGISTRATION FORM (Please print clearly)

Please register me in the seminars checked below:

MARKETING AND BUDGETING

Seminar fee: \$495 (\$395 if PLCAA Member).
Additional registrants \$200 each.

- Dallas (Jan. 6-8)
- Newark (Jan. 9-11)
- Atlanta (Jan. 13-15)
- Cincinnati (Jan. 16-18)

VALUING A LAWN SERVICE COMPANY

Seminar fee: \$595 (\$495 if PLCAA Member).
Additional registrants \$200 each.

- Chicago (Jan. 23-24)
- Atlanta (Feb. 3-4)
- Philadelphia (Jan. 20-21)

SALES TRAINING

Seminar fee: \$395 (\$295 if PLCAA Member).
Additional registrants \$150 each.

- Baltimore (Feb. 10-12)
- Chicago (Feb. 19-21)
- Detroit (Feb. 26-28)
- Sturbridge, MA (March 3-5)

DEVELOPING AN ADVERTISING PLAN

Seminar fee: \$495 (\$395 if PLCAA Member).
Additional registrants \$200 each.

- Atlanta (Jan. 20-22)
- Chicago (Jan. 27-29)

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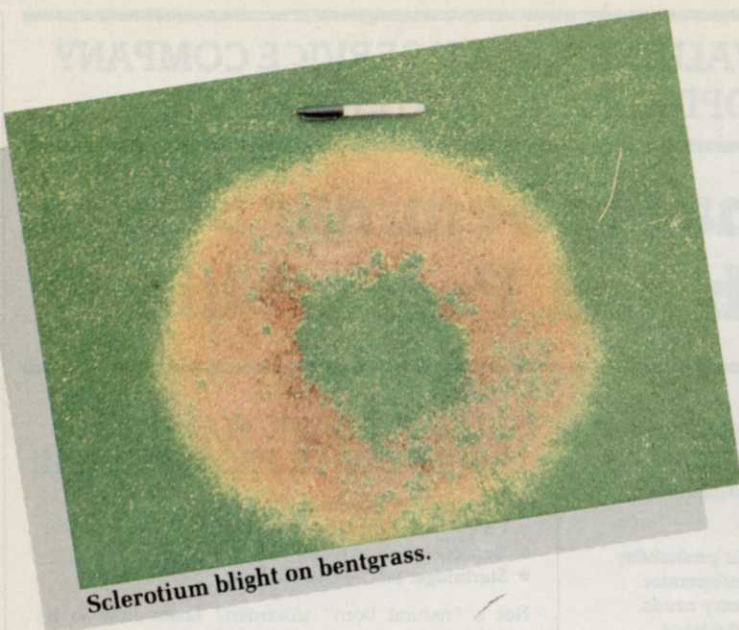
Attach list of additional names.

Check if PLCAA member

Send me information on PLCAA membership.

Mail check or money order along with registration form to:

Professional Lawn Care Association of America
1225 Johnson Ferry Road, NE
Suite B-220
Marietta, GA 30067



Sclerotium blight on bentgrass.



Pythium blight on bentgrass.

SECOND OF THREE PARTS

THE PATCH WARS

As the temperature rises, so does the number of patch disease problems. Identification is the key to control.

by Dr. Houston Couch, Virginia Polytechnic Institute and State University

Accurate diagnosis, vitally important to the development of a successful turfgrass disease control program, determines the course of action for the selection of the pesticide, the rates of application, and the details of the treatment schedule.

If diagnosis is incorrect, there cannot be an intelligent approach to im-

plementing procedures for control.

Diagnosis—not always an easy task—is complicated by the fact that the primary symptom patterns of turfgrass diseases varies with different climatic and management conditions.

For example, helminthosporium leaf spot of the cool season grasses is characterized by a well-defined leaf spot. However, the lesion develops only when air temperatures are 85 degrees F or less.

As temperatures rise above 85, the incidence of leaf spots begins to give way to a nondescript foliar blighting.

When temperatures reach the mid-90s, leaf blighting becomes the dominant symptom form. With temperatures in the 85-95 degree range, the overall symptom pattern of helminthosporium leaf spot on bentgrass putting greens will take on many of the characteristics of either pythium blight or rhizoctonia blight.

Another complicating factor in diagnosis is the similarity among some of the primary symptoms of certain diseases.

For example, although melting-out of Kentucky bluegrass and helminthosporium leaf spot of Kentucky bluegrass are incited by different species of fungi, the leaf lesions of the two

diseases are almost identical.

Positive diagnosis sometimes requires a laboratory-based examination of the diseased tissue to determine which of the two organisms is present.

Many factors complicate diagnosis when identifying the patch diseases. The "patch" symptom pattern is one in which the overall appearance of the area is characterized by the death of the majority of the leaves of the plants in a section of otherwise green turf.

Of the 17 known warm- and cool-season turfgrass patch diseases, five occur during the winter, five during the spring and fall, and seven in the summer.

The summer patch diseases are fusarium blight, sclerotinia dollar spot, sclerotium blight, pythium blight, rhizoctonia blight, melanotus white patch, and the senescence syndromes (summer patch).

The following covers fusarium blight, sclerotium blight, and pythium blight, describing key diagnostic features, listing specific weather and management conditions that favor development, and giving control practices for each member of this group.

Next month we will examine rhizoctonia blight, melanotus white patch, and summer patch.



Dr. Houston Couch is professor of plant pathology in the Dept. of Plant Pathology, Physiology, and Weed Science at the Virginia Polytechnic Institute and State University in Blacksburg, Va.



Frank J. McDonald, Director of Marketing
Cushman Division, Outboard Marine Corporation
Lincoln, Nebraska

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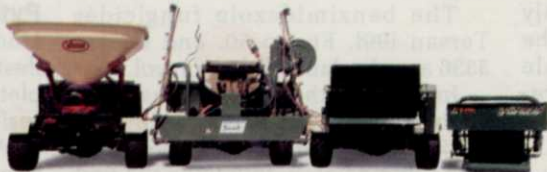
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"OUR REPUTATION IS BUILT TO LAST"

Fusarium blight

Fusarium blight is a disease of Kentucky bluegrass, bentgrass, tall fescue, red fescue, and ryegrass.

The holopathology of the disease consists of two phases: a direct blighting of the leaves; and a crown and root rot. The crown and root systems of Kentucky bluegrass and bentgrass are affected by fusarium blight and direct leaf blighting is generally very graphic.

Therefore, in field diagnosis with stands of Kentucky bluegrass or bentgrasses, the possibility of fusarium blight is usually given primary consideration.

However, with fescues and ryegrasses, the initial impact of the disease is usually most pronounced on the crowns and roots. Thus, the likelihood of the disease in question being fusarium blight can be easily overlooked.

Generally, fusarium blight is first seen as scattered, light green patches of grass two-to-six inches in diameter. Under conditions favorable for disease development, the color of these patches changes in 36 to 48 hours to a dull reddish brown, then to tan, and finally to a light straw color.

Initially, the shapes of the patches are elongated streaks, crescents, or circular. The most characteristic feature is seen in the late stages of disease development, when more or less circular patches of blighted turfgrass one-to-three feet in diameter are present.

These areas are tan to straw colored, often have reddish-brown margins one-to-two inches wide, and frequently contain center tufts of apparently-unaffected green grass. This combination produces a distinctive frog-eye effect.

When optimum conditions for disease development exist for an extended period, affected areas coalesce and large areas of turfgrass may be blighted.

Leaf lesions originate both at the cut tip and at random over the entire leaf. First seen as irregularly shaped, dark-green blotches, they rapidly fade to a light green, then reddish-brown, and finally a dull tan.

Individual lesions may involve the entire width of the leaf blade and may extend up to 1/2-inch.

Turfgrass plants affected primarily by the root and crown rot phase of the fusarium blight are stunted, pale green in color, and do not readily recover from mowing or adverse weather conditions.

Their roots are characterized by a brown to reddish-brown dry rot and as the disease progresses, these roots

become darker due to the colonization of soil saprophytes.

During periods of relatively high rainfall, the pinkish growth of the pathogens can be seen on the root and crown tissue near the soil surface.

The foliar blighting phase of fusarium blight is most severe during periods of high atmospheric humidity with daytime air temperatures of 80 to 95 degrees F and night air temperatures of 70 or above.

Fusarium blight is also more severe on turfgrass grown under high nitrogen fertilization.

When turf is on a high-nitrogen program, low soil moisture levels will cause an increase in disease severity. Conversely, under low nitrogen fertilization, development of fusarium blight is not

If diagnosis is incorrect, there cannot be an intelligent approach to implementing procedures for control.

affected by soil moisture levels.

The two fusarium species that incite this disease can actively colonize thatch and thus the material can serve as a major reservoir for inoculum.

Fusarium blight is caused by *fusarium culmorum* and *fusarium poae*.

Several saprophytic, non-parasitic, species of fusarium colonize the thatch and soil in stands of turfgrass. Therefore, when laboratory diagnostic procedures are employed, one must pinpoint precisely the species of fusaria that are present.

If *fusarium culmorum* or *fusarium poae* are absent, the disease is not fusarium blight.

Management practices that can help reduce the severity of fusarium blight are: 1) maintaining the thatch layer at approximately 1/2-inch thickness, and 2) watering frequently enough to hold the soil moisture close to field capacity.

The sterol inhibiting fungicide Bayleton is very effective in fusarium blight control.

The benzimidazole fungicides Tersan 191, Fungo 50, and Cleary 3336 are also labeled for control.

In areas with recurring fusarium blight, the fungicide application producing maximum control should be made immediately following the first time night temperatures do not drop below 70 degrees.

Sclerotium Blight

Sclerotium blight (Southern blight), first described on bentgrass golf greens in North Carolina in 1975, has since been identified on annual bluegrass, bentgrass, and ryegrass in California and on Kentucky bluegrass in North Carolina and Maryland.

On Kentucky bluegrass, sclerotium blight is first seen as small, circular dead areas. Usually some green, apparently unaffected grass plants remain in the centers, thereby producing a frog-eye appearance. These circular patches may enlarge up to three feet in diameter.

Some of the affected areas may develop into partial circles or arcs, rather than distinctive, circular patches.

When weather conditions are favorable for disease development, masses of coarse white mycelium may grow on debris on the soil surface and on the dying grass at the edge of the patches. Also, small, round, white to brown-colored hard structures 1/20-to-1/32-inch in diameter known as "sclerotia" can frequently be seen on the dead grass or on the soil surface.

On golf greens, sclerotium blight first appears as yellowish crescent-shaped patches or circular rings with apparently healthy-looking grass in the center. The diameter of these areas will vary from eight-to-36 inches.

While patches may continue to enlarge at a somewhat steady rate throughout the growing season, the center portions of apparently healthy grass expands but at a slower rate.

The fungus that incites sclerotium blight (*sclerotium rolfisii*) affects over 500 species of plants.

Sclerotium blight is a warm weather disease. During hot, humid weather, the thread-like elements (mycelium) that make up the sclerotia begin to grow on organic matter in and on the soil and then spread to living plants.

In the eastern U.S., sclerotium blight usually appears in mid-summer. In California, it becomes apparent in the early spring (usually the second or third week in May) and continues throughout the summer.

At present, there are no commercially used turfgrass fungicides labeled for control of sclerotium blight.

Pythium blight

Under favorable conditions, the most-destructive pythium blight can completely destroy established stands of turfgrass within 24 hours.

After a serious outbreak, it is frequently necessary to completely re-establish the desired turf.

Pythium blight is first seen as

Penneagle crowds out bluegrasses on Butler National's fairways



Triplex fairway mowing at The Butler National Golf Club, Oak Brook, IL

When Oscar Miles, CGCS, of The Butler National Golf Club, introduced Penneagle creeping bentgrass into his *Poa annua* infested A-20 bluegrass fairways in 1980, he took a dynamic step toward the beautiful fairways praised by the pros during the Western Open.

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THE LEADER IN INNOVATION

SUMMER PATCH from page 84

small, irregularly-shaped areas of diseased turf ranging from 1/2-to-four inches in diameter.

Initially, the leaves in these patches have a distinct dark green to purplish "water-soaked" appearance.

The leaves then shrivel and the color of the patches fades rapidly to a light brown.

As the disease progresses, the groups of affected patches frequently coalesce to envelope sections of turf from one-to-10 feet in diameter.

The shape of affected areas are often circular with uniform blighting of leaves throughout, or with center sections of green, apparently healthy plants, thus producing a distinctive frog-eye pattern.

In addition to the more or less cir-

After a serious outbreak (of pythium blight) it is frequently necessary to completely reestablish the turf.

cular pattern of development, quite commonly the patches will be either crescent-shaped or appear as serpentine streaks of blighted grass six-to-12 inches wide and two-to-three feet in length.

The leaf symptoms are first a water-soaked, dark green to greenish purple. At this point, the leaves are soft and somewhat slimy, and when disturbed by the pressure of foot traffic or mowing equipment, they may mat together. Their color soon fades to a light tan as they shrivel and become somewhat twisted.

If the growth of the pathogen is checked before the entire leaf is blighted, straw-colored lesions develop. These lesions are similar in appearance to those incited by sclerotinia dollar spot with the exception that the reddish-brown margins characteristic of the latter disease are absent.

In the early morning hours, or during periods of high humidity, the leaves of diseased plants may be covered with the white mycelium of the pathogen.

Six pythium species are known to be capable of parasitizing turfgrasses. Certain forms are primarily root inhabitants, while others are also capable of causing severe foliar blighting.

Two species, *pythium ultimum* and *pythium aphanidermatum*, are the primary foliar blighters. The patho-

genicity of both of these species is highest at temperatures of 85-95 degrees F. However, *pythium ultimum* can also incite a moderate amount of blighting when the temperatures are in the low 70s.

Pythium blight is also favored by prolonged periods of high atmospheric humidity. Extended periods of leaf wetness contribute materially to heavy outbreaks of the disease.

Disease development is more severe on grass grown at high nitrogen fertility.

Turfgrass growing under conditions of low soil moisture is more susceptible to *pythium* blight than when the soil is near field capacity.

Pythium blight can be particularly severe on the bentgrasses, ryegrasses, and Kentucky bluegrass. It also affects red fescue, tall fescue, and bermudagrass.

At present, four fungicides are labeled for control of *pythium* blight: two non-systemics (chloroneb and ethazole), and two systemic materials (metalaxyl and propamocarb).

Chloroneb is sold under the trade name "Terraneb SP," and one of the product names for ethazole is "Koban." These two fungicides are effective in *pythium* blight control but only function to prevent infections. For maximum effectiveness, they should be used in a preventative spray program.

In areas where *pythium* blight is a recurring problem, a general rule for the initiation of a preventive spray program with Terraneb SP or Koban is to begin fungicide applications immediately after night air temperatures do not drop below 70.

Metalaxyl is sold for turfgrass use under the trade name "Subdue," and propamocarb is marketed as "Banol."

Both of these fungicides are very effective in the control of *pythium* blight. For optimum control, these materials must be used at the rates listed on their respective labels.

Field research at Virginia Tech has shown that when Subdue or Banol is used at less than their low label rates, there can be a significant reduction in their capacity to control *pythium* blight.

A field study at Penn State has found that there is no difference in the control of *pythium* blight by either Subdue or Banol used alone at half-label rate or when they are combined at half-label rates as a tank mix.

One should remember that while using Subdue and Banol for *pythium* blight control you should not reduce the rate from the low dosage level listed on the label. You should apply one of the materials at a time. **WT&T**



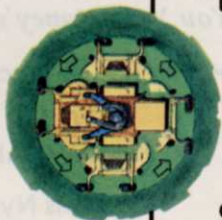
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EVENTS

May

International Society of Arboriculture, Western Chapter, annual meeting and trade show, May 18-22, Hilton Riviera Hotel, Palm Springs, Calif. Contact Robert L. Meyer, PO Box 306, Cerritos, CA, 90701 for information and registration; Jim Gorham, PO Box 870, Whittier, CA, 90608 for exhibit space and information.

North Carolina Turf and Landscape Field Day, May 21, North Carolina State University Turf Field Center, Raleigh, N.C. Contact J.M. DiPaola, Box 7620, N.C. State Univ., Raleigh, NC, 27695; (919) 737-2657.

U.S. Botanic Garden One-Hour Horticulture Short Course, May 22-24 and May 29-31, U.S. Botanic Garden Conservatory, Washington, D.C. Contact U.S. Botanic Garden, First and Maryland Ave., S.W., Washington, DC, 20024; (202) 225-7099.

University of Florida IFAS Turf Update and Field Day, May 28, University of Florida, Gainesville, Fla. Contact Charles H. Peacock, Ornamental Horticulture Dept., IFAS, University of Florida, Gainesville, FL, 32611.

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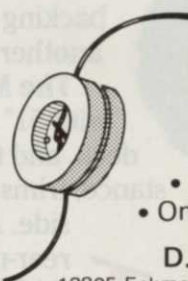
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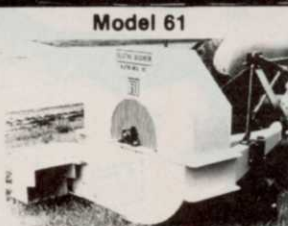
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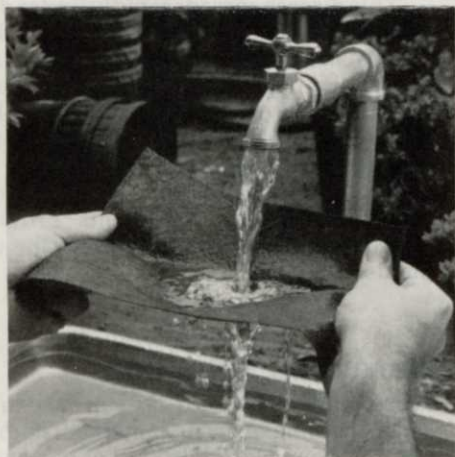
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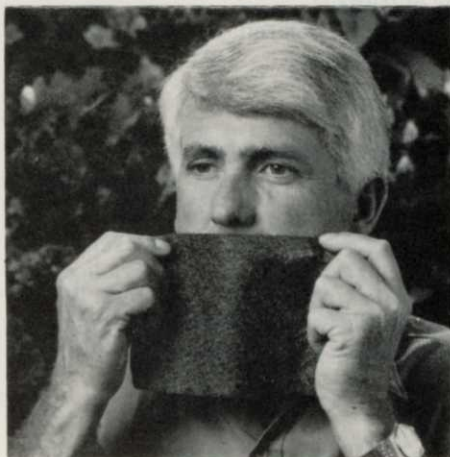
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PROBLEM SOLVERS

by Balakrishna Rao, Ph.D.

The flowers, not the fruit

Problem: Is it true that the insecticide Sevin can prevent fruit development in crabapples? A number of our clients like the flowers but they don't like the fruits dropping on the ground. Can we use Sevin? If so, when is the best time to apply? (Wisconsin)

Solution: Yes, it is true that the insecticide Sevin can prevent fruit development. Spraying the trees two weeks after petal drop and then performing another application one week later would result in considerable thinning of fruits.

If fruit thinning is not desired, delay the spray at least 30 days after blooming.

Aerification and seeding

Problem: We have seeded a number of lawns after aerifying and we are not fully satisfied with the results. In many lawns, even after a full season's growth, bare areas are not filled in yet. We noticed a lot of clumps of plants in the aerification holes. What are we doing wrong? We would appreciate your comments and guidelines for better seeding procedures. (New York)

Solution: Seeding the lawns after aerifying is one of the acceptable ways seeding can be done. This procedure works well if you are using turfgrass seed like Kentucky bluegrass with rhizomatous spreading habits. These plants with underground stems (rhizomes) can grow and spread and fill in bare areas.

If you use turfgrass seeds primarily with bunch-type growth habits, they may not fill in quickly or not at all. This would produce bunch-type growth surrounding aerification holes. After aerifying, it is often a good idea to apply some high-phosphorus fertilizer. Aerification aids in the movement of phosphorus through the root zone.

Another method of seeding is to use an Aero-seeder, which is a slice seeder. With this equipment you can expect better results because the machine slices the ground and drops the seeds in the groove, establishing seed and soil contact.

Pachysandra fungus

Problem: In a number of situations, it was suggested that the material we applied for weed control may have caused yellowing and brown spots on leaves of pachysandra. First, we thought there may be some truth to this, but in checking other unsprayed properties we also found similar problems on the pachysandra. On some plants we found yellowish-orange colored growths on the stems. Now we feel that is a disease. What causes these and what is the best way to deal with the problem? (Michigan)

Solution: The problem and the symptoms on leaves you have observed appear to be a common problem on pachysandra. Volutella blight, a fungal disease caused by *Volutella pachysandricola*, first causes leaf spots with concentric rings. The disease agent gradually moves down to stems and colonizes in the tissues. Large numbers of plants can be infected if moist and humid conditions prevail. Affected areas may look yellowish-brown to black in color. Affected plant parts will have yellowish-orange colored fungal structures and spores.

This disease spreads rapidly under dense cover of susceptible plants. To manage the problem, rake and remove dead or dying winter-killed plants soon after winter and improve air circulation. Then if the area has a history of Volutella blight, apply fungicides like Ferbam, Captan, and mancozeb starting when the new growth begins.

Repeat application two or three times at 10-day intervals to protect the plants. Provide adequate moisture and fertilizer to improve the vitality of the plants.

Herbicide selection

Problem: What criteria do you base a decision on when choosing a turf pre-emergent herbicide? Where else can you obtain this kind of information besides from the biased representatives? (California)

Solution: Richard G. Rathjens, senior agronomist on our staff, listed some of the criteria we use in selecting a pre-emergent herbicide:

1. Species labeled for use (source of information: the specimen label);
2. Formulations available (source of information: supplier);
3. Cost (source of information: supplier);
4. Compatibility (source of information: supplier and jar test);
5. Weeds controlled (source of information: specimen label and university tests);
6. Registered uses (source of information: specimen label).

For information on the best herbicide to use on a specific weed, consult: university turf specialist who has conducted pre-emergent tests, trade magazines, and *Journal of Weed Science Society of America*.



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