

News

DISEASE

Gray leaf spot hits in humid weather

Gray leaf spot develops rapidly during periods of warm temperatures and abundant moisture, warns Dr. Walter Walla, a Texas Agricultural Extension Service plant pathologist. The fungal disease can give St. Augustinegrass, or centipede, a blotchy appearance.

Gray leaf spot first appears in damp, shaded areas. Grass with heavy disease development may have a scorched appearance. The disease is characterized by irregular gray, dirty-yellow or ash-colored spots on grass leaves. The borders of leaf blades may have a brown, purple or water soaked appearance or a gray mold may cover the spots, says Walla.

The disease becomes more severe when excessive nitrogen fertilizer is applied on certain St. Augustinegrass types. Newly-sprigged and rapidly-growing grasses are more susceptible. Walla advises watering during the day so foliage won't remain wet overnight. He also points out that most turf fungicides effectively control the disease when used at 10-day intervals during the warm, humid periods. Mix the fungicide in 15 gallons of water plus two ounces of liquid detergent for each 1,000 square feet of turf.

LABOR

Summer labor must comply with law

With summer, many youths look for temporary employment. It is a great source of help during the busy season. However, the Department of Labor warns that the child labor laws must be observed. These laws do not apply to anyone 18 and over.

At 16 and 17 years old, youths may be employed without a limit on hours worked and in any nonagricultural occupation other than those declared hazardous by the Secretary of Labor. Some of those that might apply include:

operating various types of power-driven saws and guillotine shears; operating most power-driven hoisting apparatus such as non-automatic elevators, fork lifts, and cranes; and operating motor vehicles or working as outside helper on motor vehicle.

The Department of Labor office told **Golf Business** that operating a motor vehicle applies to transportation. Driving a tractor, doing work, is not included and is allowable.

However, not for workers under 16. Fourteen and 15 year olds are excluded from working in all hazardous occupations, including operating or tending most power-driven equipment.

If you have a specific question, call Betty Hayes in the USDL information office at 202/523-8743.

By the way, golf course labor is considered nonagricultural.

PESTICIDES

DOW requests cancellation move

"We believe that a hearing panel composed of three EPA employees will find it difficult to recommend that he (EPA administrator) reverse his position. The situation calls for independent review."

With that statement, DOW Chemical Company withdrew from the 2,4,5-T and silvex suspension hearings and requested that the Environmental Protection Agency assign an Administrative Law Judge and schedule an immediate pre-hearing so that a full examination on risks and benefits could be undertaken with an ultimate government decision resulting.

DOW attorney Michael J. Traynor stated, "We have participated in two days of suspension hearings before a three-man panel of EPA employees to determine if 2,4,5-T and silvex herbicides should remain off the market during the upcoming six-month to two-year cancellation process. It has become apparent that the fundamental issues, which are the long-term safety and benefits of these products, will not be considered, therefore we are withdrawing from the 'suspension' hearings and pressing for prompt commencement of the broader cancellation hearings. This action is not an abandonment of the products or their defense, but simply a means to expedite the final resolution of their futures by beginning the cancellation hearings immediately."

DISEASE

Turf symposium provides update

A symposium on Turfgrass Diseases recently (May 15-17, 1979) took place in Columbus, Ohio. Over 150 were in attendance representing turfgrass pathologists and agronomists from universities, chemical companies, lawn care companies, sod and seed producers, golf courses, and other turfgrass industries. The major disease problems on turfgrasses were discussed by twenty leading experts. Time was devoted to discussion periods in which an exchange of ideas between those attending freely took place. These ideas should prove invaluable in developing new research areas in managing turfgrass disease problems.

The morning of the last day was devoted to a contributed paper session. That afternoon was spent touring turfgrass research facilities at ChemLawn Corporation and Ohio State University.

The symposium proceedings will be published and should be a valuable update on turfgrass disease problems. Anyone interested in purchasing the proceedings should contact the symposium organizers, Dr. P. O. Larsen — Ohio State University (614-422-6987) or Dr. B. G. Joyner — ChemLawn Corporation (614-

885-9588.

The response to the symposium has led to the planning of another symposium for 1980. The 1980 symposium is scheduled to occur on Oct. 14, 15, 16 and will cover insect problems on turfgrasses. Those seeking additional information or wish to contribute ideas for this symposium should contact B. G. Joyner, Plant Diagnostic Labs, ChemLawn.

EFFLUENT WATER

Effluent can enrich land, pocket-book

As an incentive for considering innovative treatment processes of sewage, the Federal cost-share percentage is 85 percent, as compared to 75 percent for conventional sewage treatment plants. This is a result of the 1977 amendments to the Federal Water Pollution Control Act. They instructed all construction grant applicants planning new or improved sewage treatment plants to consider innovative treatment processes such as land treatment.

Land near cities can sometimes benefit from the nutrients contained in the effluent, typically 50 pounds of nitrogen, 25 pounds of phosphorus and 40 pounds of potassium, according to Dr. John Sweeten, agricultural Engineer with



Speakers at the recent symposium on Turfgrass Diseases 1979 (May 15-17) held in Columbus, Ohio. Pictured from left to right, P. O. Larsen (Ohio State University — Symposium Co-Organizer), J. L. Saladini (DuPont-Denver), N. Jackson (University of Rhode Island), T. E. Freeman (University of Florida), B. G. Joyner (Plant Diagnostic Labs., ChemLawn Corp. — Symposium Co-Organizer), L. L. Burpee (Bermuda Dept. Agric. & Fisheries), J. M. Fenstermacher (ChemLawn Corp.), A. K. Hagan (Ohio State University), R. W. Smiley (Cornell University), J. D. Smith (Canada Dept. of Agric.), H. B. Couch (VPI & SU), J. M. Vargas, Jr. (Michigan State University), and L. T. Lucas (North Carolina State University). Speakers not pictured include A. F. Schmitthener (Ohio Agric. Res. & Devel. Center), R. M. Riedel (Ohio State University), P. F. Colbaugh (Texas A&M University), C. F. Hodges (Iowa State University), R. M. Morrison (Northrup, King & Co.), K. Kmetz (DuPont-Columbus) and H. Cole, Jr. (Pennsylvania State University).

the Texas Ag Extension Service.

In Texas, two state agencies have primary jurisdiction over land application of municipal sewage. The Texas Department of Water Resources is responsible for systems financed by the Environmental Protection Agency Construction Grants Program and/or the Texas Water Quality Enhancement Fund.

The most stringent requirements apply to public access lands such as recreation areas and to wastewater application systems that would involve an indirect discharge to surface or groundwater. Land application of treated sewage effluent is generally permitted if surface and ground water quality will not be impaired.

Sewage applied to public access land must have received secondary treatment following primary, which is solids separation. Texas does have a limit on bacterial quality and irrigation should not take place when areas are open to the public.

Private agricultural land may be irrigated with water receiving only

solids separation, provided discharge to surface or ground-water is prevented. Sweeten says the city or farmer may own the storage facility.

The application systems include irrigation without discharge, overland flow and infiltration-percolation. The application rate for the systems varies with soil type and depth, percolation rate, slope, water table level, crop growth and other related factors.

More than 200 Texas cities and towns have installed land application systems for treatment and disposal of municipal sewage effluent.

IRRIGATION

Temperature can show when to water

There is now a "gun" on the market that will measure the canopy temperature of a crop and the air temperature and give a digital readout of the difference. The gun weighs about 2 pounds, is carried

in a holster, and has rechargeable batteries.

The theory behind use of the gun is that when evapotranspiration depletes the soil moisture below the plant's needs, the plant's temperature rises, due to stress. When the crop temperature exceeds the air temperature for a certain length of time, depending on the crop, it is necessary to irrigate. This concept has been under study by USDA scientists at the U.S. Water Conservation Laboratory in Phoenix, Ariz., for the past few years.

The concept is being "fine-tuned" by three scientists with USDA's Science and Education Administration-Agricultural Research. Ray Jackson, Robert Reginato and Sherwood Idso have developed a system that they call "stress-degree-days". Wheat, for instance, on Phoenix area soils has a tentative stress-degree-day classification of +10. If the differential reading on a wheat field one day is +2, the next day +3, and the following day +5, the total accumulation of +10 indicates that

the crop needs water.

We need a turf scientist to come up with figures for turfgrasses. Then when to irrigate will be as easy as that.

COURSES

Pinehurst no. 2 closed for original restoration

The Pinehurst no. 2 course, designed by Donald Ross, is currently closed for restoration of the layout to its original design and condition. The seven-year-old Penncross bent greens were stripped and are currently being resodded with a Bermuda hybrid strain similar to the grass Ross last used.

Three greens have undergone further surgery — only minor, again to restore the course to the design and shape that existed just after Ross' death in 1948.

A second step in the restoration program involves returning the greens to their original size.

"Over the last 20 years, the greens of No. 2 have shrunk . . . so slowly that it was hardly perceptible except to the trained eye," Miller said. "But the greens had lost at least two dozen excellent pin placements in the process." Restoring greens size does not involve redesigning but requires, simply, cutting larger greens. The enlarging will return more than 50 per cent in green dimensions and will bring several mounds once again more closely into play.

A third step entails restoring 17 sand traps that had been converted to grass bunkers over the last 30 years. These will not add appreciably to course difficulty, Miller said, but will provide contrast for depth perception and hole definition.

Those involved in the restoration note that firm greens were once a trademark of No. 2 Course. Returning to Bermuda-grass greens will "put the pitch and run shot back into No. 2," said golf course architect Tom Fazio of the design team of George and Tom Fazio, who built the Pinehurst No. 6 Course and completed redesign work at Inverness Club in Toledo, Ohio, for the 1979 U.S. Open. "Bermuda-grass greens will eliminate the approach shot hit directly to a pin placement. Rather, as is more common on Bermuda-grass greens, players can expect a big first bounce before an approach shot holds," Fazio said.

GOLF BUSINESS pulse report — March*	% of sample	average expenditure	total expenditure within sample	total expenditure projected to universe**
dry turf fertilizer	79	\$2694.36	\$118,552	\$25,000,000
liquid turf fertilizer	11	513	3,080	650,000
tree fertilizer	25	400	5,600	1,200,000
pre-emergence herbicide	46	780	20,272	4,300,000
post emergence herbicide	63	667	23,352	5,000,000
aquatic herbicide	29	319	5,096	1,000,000
fungicide	66	1709	63,224	13,000,000
turf insecticide	50	518	14,504	3,000,000
tree insecticide	25	200	2,800	590,000
seed	61	781	26,544	5,600,000
sod	14	1617	12,936	2,700,000
trees	34	1512	28,728	6,100,000
ornamentals	25	1948	27,272	5,800,000
soil amendments	34	799	15,176	3,200,000
tractors:				
under 10 hp	9	1523	7,616	1,600,000
10-20 hp	5	3808	11,424	2,400,000
21-30 hp	0	1	—	—
31-50 hp	7	11,172	44,688	9,500,000
larger	4	2500	5,000	1,100,000
tractor drawn mowers:				
rotary	4	2828	5,656	1,200,000
reel	14	2345	18,760	4,000,000
flail	7	1204	4,812	1,000,000
self-propelled mowers:				
rotary	30	2994	50,904	11,000,000
reel	34	5123	97,328	21,000,000
flail	2	400	400	85,000
irrigation equipment:				
pumps	18	7717	77,168	16,000,000
sprinklers	43	2480	59,528	13,000,000
pipe	43	1204	28,896	6,100,000
controls	30	2253	38,304	8,100,000

*56 strategically located superintendents reported their expenditures for the month of March. GOLF BUSINESS presents these figures as an ongoing effort to accurately picture the dollar volume in the golf market.

**These figures are based on the assumption that what is true of the superintendents responding to the questionnaire is true of superintendents in general. A universe figure of 11,885 superintendents is used.