

A Look At ...



FORCE OF NATURE — THE WHOLE TRUTH FROM AN INDEPENDENT PERSPECTIVE from
National Organization Responding Against HUJE that seek to harm the Green Space Industry (NORAHG)

Brown Patch

A Look At Turfgrass Disease Management

Purdue University (Indiana)

Wikipedia

Photos from Kentucky State University

Selected and adapted excerpts

Names Associated with Brown Patch

BROWN PATCH

Large Brown Patch

Rhizoctonia Brown Patch

Rhizoctonia solani (Latin name)

Plaque brune (French name)



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Susceptible Species

Brown Patch can be found in ALL cool-season turfgrasses.

Brown Patch is MOST DEVASTATING to —

- Annual Bluegrass (*Poa annua*)
- Bentgrasses (*Agrostis* spp.)
- Ryegrasses (*Lolium* spp.)
- Tall Fescue (*Festuca arundinacea*)

Brown Patch creates rare and minimal damage to —

- Fine-Leaved Fescues (*Festuca* spp.)
- Kentucky Bluegrass (*Poa pratensis*)



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Likely Locations

Golf course putting green, tees, and fairways composed of Annual Bluegrass and Creeping Bentgrass.

Sports fields and home lawns composed of Perennial Ryegrass and Tall Fescue.

Identification — Golf Course Greens and Tees

Brown Patch symptoms differ depending on the various maintenance practices performed on the turfgrass, such as fertilization, irrigation, mowing height, etc ...

Symptoms on turfgrasses that are WET FOR EXTENDED PERIODS OF TIME and are CLOSELY-MOWED, such as golf course putting greens and tees, will produce LARGE CIRCULAR PATCHES, up to 50 centimetres in diameter.

The Brown Patch pathogen produces no spores, and therefore, the disease spreads by radial expansion of advancing mycelium over the leaf blades.

The colour of the mycelium is bluish-purplish or gray-purplish.

Early in the morning, the advancing mycelium may be seen surrounding the edge of the patches, known as a « *smoke ring* ».



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Identification — Sports Fields and Home Lawns

Turfgrasses for sports fields and residential home lawns composed are NOT WET FOR EXTENDED PERIODS OF TIME and are NOT CLOSELY-MOWED.

They are composed of Tall Fescue and Perennial Ryegrass, and may also sustain serious damage from Brown Patch infection.

Symptoms are LARGE CIRCULAR PATCHES that can be several feet in diameter, and may have a « *frog eye* » appearance.

« *Frog eye* » is a large circular patch WITH A GREEN CENTRE.

« *Smoke rings* » may also occur, but are much less evident.

Turf may also seem to fade and decline with an indistinct shape.

A closer examination of the leaf blades, such as Tall Fescue, may reveal small, tan-to-brown, irregular shaped lesions.



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Diagnosis

Brown Patch is a SUMMER DISEASE.

Brown Patch disease is most common in mid- to late-summer when there are EXTENDED PERIODS WITH HIGH HUMIDITY AND TEMPERATURES.

It is most common when NIGHT-TIME TEMPERATURES FAIL TO DROP BELOW 20°C (68°F) , and DURING EXTENDED PERIODS OF HIGH HUMIDITY OR PROLONGED LEAF WETNESS.

Brown Patch is a FOLIAR DISEASE, so it does not have any effect on the crown or roots of the turf plant.

It has been found that Brown Patch thrives on LUSH AND SUCCULENT TURFGRASS that have HIGH LEVELS OF NITROGEN.

Moderate to severe outbreaks on golf course putting greens CAN RESULT IN THIN, POOR QUALITY TURF THAT MAY BE PREDISPOSED TO ALGAE AND MOSS INFESTATION.



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Conditions Favouring Disease Development

Under favourable conditions, the symptoms of Brown Patch may develop overnight.

Since Brown Patch is a summer disease, it will become active during HOT HUMID PERIODS when DEW PERIODS EXCEED 10 HOURS, and NIGHT-TIME TEMPERATURES REMAIN ABOVE 20°C (68°F).

Here are some conditions favouring the development of Brown Patch —

- Excessive layer of thatch
- Excessive use of nitrogen fertilizer
- Excessive use of water for irrigation
- High temperatures occurring for an extended period — exceeding 30°C (86 °F) day-time, and exceeding 20 °C (68 °F) night-time
- Humid periods when dew periods exceed 10 hours
- Poor air circulation



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Chemical Control

The application of several disease-control fungicides must be performed on a PREVENTIVE basis, although some will also function on a CURATIVE basis.

The application of fungicides containing thiophanate-methyl and/or chlorothalonil in weather above 32°C (90°F) may be INEFFECTIVE.

Effective fungicides include —

- Banner[®] MAXX (propiconazole) — 14 days — Do not apply if disease symptoms are present — Preventive
- Compass[™] 50 WG (trifloxystrobin) — 14 to 21 days — Preventive or curative
- Daconil[®] Weather Stik (chlorothalonil) — 7 to 14 days — Preventive or curative



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Chemical Control (continued)

- Daconil[®] Ultrex (chlorothalonil) — 7 to 14 days — Preventive or curative
- Eagle* WSP (myclobutanil) — 14 days — Preventive
- Heritage[™] MAXX (azoxystrobin) — 14 to 28 days — Preventive
- Premis[®] 200 F Fungicide (triticonazole) — 14 to 21 days — Preventive
- Rovral[®] Green GT (iprodione) — 14 to 21 days — Preventive or curative
- Senator[®] 70WP WSB (thiophanate-methyl) — 5 to 7 days — Preventive



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Preventive Practices

The following practices of disease SUPPRESSION are valid, but they WILL NOT provide disease CONTROL.

The intensity of disease activity MAY be reduced, but it is IMPROBABLE that disease will be fully controlled without some use of fungicides.

Applications of conventional fungicides will still be necessary, ESPECIALLY PREVENTIVELY, although their frequency may be significantly reduced.

- Avoid night-time irrigation
- Incorporating new disease-resistant varieties
- Improve air circulation
- Mow only when leaves are completely dry
- Reduce excess thatch
- Reduce the overall use of irrigation water
- Remove dew early in the day
- Use a slow release source of nitrogen fertilizer



A LOOK AT is a report presented by National Organization Responding Against Hujer that seek to harm or misinform the Green Space Industry (NORAHG).

A LOOK AT is a series of reports destined for the green space industry, nationwide across Canada, the United States, and overseas, and has been developed for the education and entertainment of the reader by providing TECHNICAL INFORMATION WITH COMMENTARY.

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A LOOK AT, and its various incarnations, is the brainchild of William H. Gathercole and his colleagues.

Here is a brief summary of Mr. Gathercole's career —

Fields of study — Horticulture/Agriculture, Mathematics, Physics

Alma mater — McGill University • University of Guelph • the first person ever to obtain university degrees and contribute to both the professional lawn care and golf maintenance industries

Expertise in — environmental issues and environmental terrorism • turf and ornamental maintenance and troubleshooting • history of the industry • sales and distribution of seeds, chemicals, fertilizers, and equipment • fertilizer manufacturing

Notable activities — worked in virtually all aspects of the green space industry, including golf, professional lawn care, distribution, environmental compliance, government negotiations, public affairs, and workplace safety • supervisor, consultant, and, programmer for the successful execution of hundreds of thousands of management operations in the golf and urban landscape, as well as millions of pest control applications • advisor, instructor, and trainer for thousands of turf and ornamental managers and technicians • pesticide certification instructor for thousands of industry workers — founder of the modern professional lawn care industry • prolific writer for industry publications and e-newsletters • first to confirm the invasion of European Chafer insect in both the Montreal region and the Vancouver/Fraser Valley region • with Dr. Peter Dernoeden, confirmed the presence of Take-All Patch as a disease of turf in Eastern Canada • with Dr. David Shetlar, confirmed the presence of Kentucky Bluegrass Scale as an insect pest in South-Western Ontario, and later, in the Montreal and Vancouver regions • the only true reliable witness who intervened in the development of prohibition in the town of Hudson, Quebec

Special contributions — creator of the exception status that has allowed the golf industry to avoid being subjected to the prohibition of pest control products • creator of the signs that are now used for posting after application • co-founder of annual winter convention for Quebec golf course superintendents • the major influence in the decision by Canadian Cancer Society to stop selling for profit pesticide treated daffodils • retired founder of FORCE OF NATURE and A LOOK AT e-newsletters

Notable award — man of the year for contributions leading to the successful founding of Quebec professional lawn care industry, which served as a beach-head against activism in the 1980s and 1990s

Legacy — for fifteen years, the strategies designed and implemented by Mr. Gathercole and his colleagues ensured the control of environmental activists, providing peace for the entire modern green space industry across Canada • orchestrated, with his colleagues, legal action against activists in the town of Hudson, Quebec

Mr. Gathercole is now retired, although his name continues to appear as founder of A LOOK AT and FORCE OF NATURE e-newsletters.



A Look At ... From an Independent Perspective