

GOLF COURSE NEWS

Exclusive surveys of *Golf Course News*

Fungi fight an annual battle on golf courses

BY MARK LESLIE

Chronic turf diseases during peak playing time and on golf courses' most critical playing areas — the greens — are the plague of superintendents. Among the most bothersome are pythium blight and summer patch, two fungi that attack in July and August in much of the United States.

"Pythium blight and summer patch occur anywhere it's hot, humid and wet," said Stan Zontek of the United States Golf Association Green Section's Pennsylvania office. "They're a problem, for sure, east of the Mississippi River. Summer patch is a problem where poa annua greens are grown

— the Mason-Dixon line north, extending to the Mississippi River and even west, and in the Pacific Northwest and California. The further north you go, the worse they get.

"There is no poa annua in the Carolinas but we do see pythium in the Carolinas... Pythium hits tees, greens and fairways."

To keep club members and other golfers at bay, superintendents must annually combat these nemises by spraying their turf with fungicides. And developing new fungicides has become a major research adventure for several major companies.

That is especially true, Zontek said, because summer patch and pythium blight

Fungicides formulated to combat pythium blight

Golf Course News surveyed the major manufacturers of fungicides, asking questions to help our readers interested in products formulated to fight pythium blight and summer patch. This table displays the results of the pythium blight survey. Results of the summer patch survey are on the opposite page.

We asked companies if they manufacture the fungicide or if they buy it from another

company and affix their own brand label on it. If a company buys the active ingredient and formulates the fungicide, we answered "manufacture." All the manufacturers also market their products, and there are distributors nationally.

These tables are in our centerspread so that readers can pull them from the newspaper and tack them onto a bulletin board.

Company	Manufacture or Market	Market Area	Pythium blight Fungicide	Active Ingredient	Formulation	Contact or Systemic	Cost per 1000 Sq.Ft.	States NOT Registered in
CIBA-Geigy Corp. PO Box 18300 Greensboro, NC 27419 Owen Towne 919-292-7100 Circle No 201	Manufacture	Nat'l	Subdue	Metalaxyl	Liquid	Systemic	N/A	None
W.A. Cleary Chemical 1049 Somerset St. Somerset, NJ 08873 Michael Kolb 201-247-8000 Circle No 202	Manufacture	USA	Caddy	Cadmium chloride	Liquid	Contact	.73-.75	CA,CT,WI
Grace-Sierra 1001 Yosemite Dr. Milipitas, CA 95035 Mark Broxon 800-492-8255 Circle No 203	Market	USA	Koban	Etridiazole	Powder granular	Contact	4.00-5.00	None
Hendrix & Dail 803 Industrial Blvd. Greenville, NC 27835 Carroll McLawhorn 919-758-4263 Circle No 204	Market	USA	H-D BI-O-CIDE	Formaldehyde	Liquid	Contact	10.00	N/A
Kincaid Enterprises PO Box 549 Nitro, WV 25143 Jim Ratcliff 304-755-3377 Circle No 205	Manufacture	Int'l	Terraneb SP	Chloroneb	Wettable powder	Systemic	2.70	CA
Nor-Am Chemical Co. 3509 Silverside Road Wilmington, DE 19803 George Raymond 302-575-2030 Circle No 206	Manufacture	USA	Banol	Propamocarb	Liquid	Systemic	2.65	CA
Rhone-Poulenc PO Box 12014 Triangle Park, NC 27709 Irwin Fishkin 919-549-2314 Circle No 207	Manufacture	Int'l	Chipco Aliette	Aluminum tris	Powder	Systemic	3.50	None
O.M. Scott & Sons 14111 Scottslawn Road Marysville, OH 43041 Susie Calhoun 513-644-0011 Circle No 208	Manufacture	Int'l	Pythium Control Fungicide V Fluid Fungicide II	Metalaxyl Chloroneb Triadimefon Metalaxyl	Granular Granular Granular	Systemic Both Both	2.93 5.36 2.63	None CA None
Seacoast Laboratories Old Georges Rd. Dayton, NJ 08810 John Moynihan 800-522-4769 Circle No 209	Manufacture	N'east	Granular Chloroneb	Chloroneb (Tersan SP)	Granular	Contact	3.58	Outside N'east

have been found to build up a resistance to fungicides when those fungicides are used exclusively.

"Any common-sense (treatment) program will alternate fungicides," said Zontek, who Green Section National Director Jim Snow called the USGA's foremost expert on fungicides.

"Pythium blight is known to resist certain fungicides. So it is common sense to alter-

nate, certainly after every second spray."

Fungicides are either "contact" — meaning they work on contact with the disease— or "systemic" — meaning they enter into the plant itself and fight the disease from within.

Contact fungicides, Zontek said, directly contact the fungicide and flat cold kill it.

"Using systemic is like going to the doctor and he gives you a shot. It doesn't stop it

immediately but it lasts longer," he said.

"Contact fungicides are better as a curative, whereas systemics should be sprayed on to protect the turf before you see the disease. If you see the disease occurring, you've lost grass."

Zontek suggested applying a systemic fungicide in late June, before the disease hits. Then, if a "breakthrough" of the disease occurs, "hit it with contact."

Add to that Zontek's critical recommendation: "Avoid resistance. Alternate materials."

Superintendents can effectively fight these two fungi using intelligent programs of moderation, combatting them with chemicals and integrated pest management techniques, Zontek said, adding, "But we still need to encourage manufacturers to come up with new materials."

Fungicides formulated to combat summer patch

Company	Manufacture or Market	Market Area	Summer Patch Fungicide	Active Ingredient	Formulation	Contact or Systemic	Cost per 1000 Sq.Ft.	States not registered in
CIBA-Geigy Corp. PO Box 18300 Greensboro, NC 27419 Owen Towne 919-292-7100 Circle No 210	Manufacture	Nat'l	Banner	Propicanazole	Liquid	Systemic	N/A	CA
W.A. Cleary Chemical 1049 Somerset St. Somerset, NJ 08873 Michael Kolb 201-247-8000 Circle No 211	Manufacture	USA	3336	Thiophanate Methyl	Powder & Liquid	Systemic	\$1.20-1.25 per ounce	CA
DowElanco 4040 Vincennes Circle Indianapolis, IN 46268 Roger Foulks 317-276-2299 Circle No 212	Manufacture	Int'l	Rubigan	Fenarinol	Liquid	Systemic	3.44-6.88	None
DuPont Company PO Box 80038 Wilmington, DE 19880 Clyde Roberts 302-992-6173 Circle No 213	Manufacture	Int'l	Tersan 1991	Benomyl	Granular	Systemic	N/A	None
Grace-Sierra 1001 Yosemite Dr. Milpitas, CA 95035 Mark Broxon 800-492-8255 Circle No 214	Market	USA	FunGo	Thiophanate Methyl	Liquid & Powder	Systemic	2.00	None
Howard Johnson's Ent. 161 W. Wisconsin Ave. Milwaukee, WI 53203 Michael Stephens 414-276-4656 Circle No 215	Market	Midwest, N'east	Bayleton	Triadimefon	Granule	Both	3.00-6.00	None
Lebanon Chemical Co. 1600 E. Cumberland St. Lebanon, PA 17042 Paul Grosh 800-233-0628 Circle No 216	Manufacture	USA	Lebanon Turf Fungicide	Bayleton	Granular	Systemic	2.30-4.60	None
Lesco, Inc. 20005 Lake Road Rocky River, OH 44116 Mark Beliczky 216-333-9250 Circle No 217	Market	USA	Benomyl DG	Benomyl	Granular	Systemic	5.00	N/A
Mobay Corp. 8400 Hawthorn Road Kansas City, MO 64120 Allen Haws 816-242-2000 Circle No 218	Manufacture	USA	Bayleton	Triadimefon	Granular	Both	3.00-6.00	None
Regal Chemical Co. P.O. Box 900 Alpharetta, GA 30239 Will King 404-475-4837 Circle No 219	Manufacture	USA	SysTec 1998	Thiophanate Methyl	Liquid	Systemic	1.10	CA
Rohm & Haas Co. Independence Mall West Philadelphia, PA 19105 David Sutton 215-592-2983 Circle No 220	Manufacture	Int'l	Systhane	Myclobutanil	Powder	Systemic	N.A	All (pending EPA reg.)
O.M. Scott & Sons 14111 Scottslawn Road Marysville, OH 43041 Susie Calhoun 513-644-0011 Circle No 221	Manufacture	Int'l	Fertilizer Plus Fungicide VIII	Thiophanate Methyl Iprodione	Granular	Both	3.13	None