

Summer Patch Fungicide Studies

In Michigan, summer patch (Phialophora graminicola) is an elusive, sporadically occurring patch disease of annual bluegrass (Poa annua) greens and fairways. Many summers in Michigan are too cool and/or moist to bring on disease symptoms. We did, however, experience a moderately severe outbreak of summer patch this year, following an unusually hot 9 day period in mid-July. As soon as the disease was diagnosed, research studies were initiated on two golf course fairways, one at the Glen Gary Golf Club in Holland, Ohio and another at the Washtenaw Country Club in Ypsilanti, MI.

Treatments were applied as described on the data table as heavy soil drenches (approx. 40 gal/1,000 ft²). The granular treatments were pre-weighed, applied by hand and watered in. Initial treatments were applied to the Washtenaw study on July 30 and to the Glen Gary study on August 11 with treatments being re-applied on Sept. 2 (Glen Gary 21 day treatments), on August 14 (Washtenaw 14 day treatments) and on August 29 (Washtenaw 14, 21, 28 day treatments) when symptoms were abating.

Disease levels in the control plots in the Washtenaw County Club plot area abated gradually from the date of initial treatment application, so no data was available. This study was larger than the Glen Gary study and it contained most of our experimental and contract research fungicides, as well as many standards.

Disease levels in the Glen Gary Golf Club plot area persisted for approximately 4 weeks, during which time significant differences developed between many treatments and the controls. The symptom area was large enough to accommodate only standard fungicides and fertilizer treatments, so no experimentals were included. By the rating date (9/8/86), all 21 day treatments had been applied twice and the 30 day treatments had been applied once (Table 3).

Data from 1983 (most recent severe outbreak of summer patch in Michigan) indicated that the benzimidazole fungicides (Tersan 1991, Fungo 50, Cleary 3336) were effective when drenched into the thatch at high rates. Bayleton was also effective in our 1983 trials although it seemed to be slower-acting. Chipco 26019 appeared to be ineffective. These trends were also observed this year, with Tersan 1991 giving the best control with the other benzimidazoles close behind. Bayleton seemed to be somewhat less effective. However, in view of our 1983 experience, it is likely that Bayleton would have been more effective if disease pressure had persisted for a longer period.

It should be noted that the heavy sulfur application (one app. at 5 pts/1000 ft²) created a stark, nitrogen-like response with the annual bluegrass becoming dark green and surging in growth. The cause of this phenomenon is unknown, but further work is called for in future years. The annual bluegrass response to sulfur at the lower rate (1 pt/1000 ft²) was barely noticeable.

No phytotoxicity was noted.

Table 3. Glen Gary Summer Patch Fungicide Study - 1986.

Glen Gary Golf Club, Holland, Ohio
 Plots rated 9/8/86
 Disease rating - % plot area infected

<u>Treatment</u>	<u>Rate/1000 ft²</u>	<u>Interval</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>Ave.</u>	<u>DMR¹</u>
Tersan 1991	6 oz	21 day	7	5	2	4.7	A
Tersan 1991	3 oz	21 day	2	15	2	6.3	A
Cleary 3336	8 oz	21 day	5	20	0	8.3	AB
Lawn Restore	10 lbs	30 day	10	5	5	8.7	AB
Fungo 50	8 oz.	21 day	10	10	10	10.0	ABC
Cleary Sulfur F	1 pt	30 day	10	15	5	10.0	ABC
Cleary 3336	4 oz	21 day	15	15	2	10.7	ABCD
Cleary Sulfur F	5 pts	(1 time only)	10	15	10	11.7	ABCD
Banner	2 fl oz	21 day	15	10	15	13.3	ABCD
Banner	4 fl oz	21 day	20	15	5	13.3	ABCD
Green Magic	1 qt	30 day	10	20	10	13.3	ABCD
Chipco 26019	2 oz	21 day	20	20	10	16.7	ABCDE
Bayleton	4 oz	21 day	30	10	15	18.3	ABCDE
Phosphorus(0-46-0)	1 lb. P	30 day	20	20	20	20.0	ABCDE
Check	--	--	15	30	25	23.3	BCDE
Bayleton	2 oz	21 day	20	25	30	25.0	CDE
Urea	1/2 lb N	30 day	40	20	15	25.0	CDE
Fungo 50	4 oz	21 day	20	50	10	26.7	DE
Chipco 26019	4 oz	21 day	15	25	50	30.0	E

¹ Treatments followed by the same letter are not significantly different from each other at the 5% level.