



# Residual Suppression of Dollar Spot by PCNB

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## Bottom line:

In this Wisconsin study, the fall application of PCNB suppressed dollar spot suppressed dollar spot activity the following season.

## Introduction

There are many reports of the non-target effects of fungicides on turf-grass diseases (Couch, 1991). L. L. Burpee et al. (1990) reported that the fungicides triadimefon and propiconazole not only gave good control of Typhula blight and pink snow mold but they also suppressed dollar spot epidemics the following spring. However, they also reported that pentachloronitrobenzene (PCNB) snow mold prevention applications 'seemed' to increase dollar spot intensity. Although the increase in dollar spot intensity was not statistically significant in the two year study, it did warrant further investigation.

The investigations reported here were initially snow mold experiments. Unfortunately, the snow mold data didn't produce anything useful. However, marked differences in dollar spot intensity were noticed the following spring. This report describes the results of this one year Wisconsin study that tested the question: "Does the late fall application of PCNB increase spring dollar spot activity?"

## Materials and Methods

Host: 'Penncross' creeping bentgrass

Location: O.J. Noer Turfgrass Research and Education Facility

Soil analysis: Site 1= pH 7.0, O.M. 3.6%, P ppm 57, K ppm 223  
Site 2 = pH 6.2, O.M. 3.6%, P ppm 61, K ppm 225

Mowing height: 1/2 inch fairway height

Experimental design: randomized block design with ten replicates

Dimensions: 3' x 5' individual units with 1' fungicide borders within a 45' x 50' plot

Fertilization schedule:

## Results

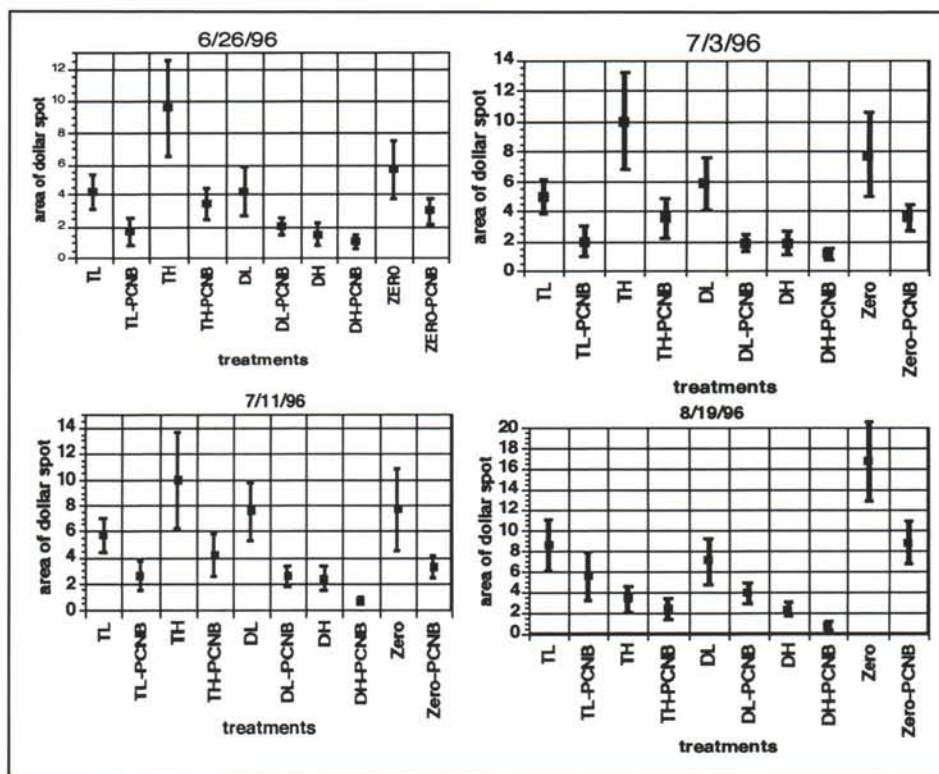
The results are illustrated in Figure 1.

## Discussion

Burpee et al. (1990), in Guelph, Ontario, reported that although the values of dollar spot disease suppression of the snow mold application of PCNB were not statistically significant, the increase in dollar spot in the

plots treated with PCNB, observed in each year of the Guelph study warranted further investigation. The Wisconsin results suggest that the late fall application of PCNB does suppress dollar spot activity during the spring and summer. Furthermore, the over-proven fact that dollar spot is more severe at lower nitrogen levels is nicely illustrated by the zero nitro-

Figure 1. Average dollar spot ratings from 6/26/96 to 8/19/96. Error bars are the standard error of the average.



Fert. Schedule	Year	# of nitrogen applied per 1,000 sq. ft.							
		May	June	July	Aug	Sept	Oct	Nov	Total
Traditional low-TL	96-97	1.2	--	0.6	--	1.2	--	--	3
Traditional high-TH	96-97	2.4	--	1.2	--	2.4	--	--	6
Dormant low-DL	96-97	--	1.2	--	0.6	--	--	1.2	3
Dormant high-DH	96-97	--	2.4	--	1.2	--	--	2.4	6
Zero nitrogen	96-97	--	--	--	--	--	--	--	0

\*\*PCNB = Pennstar 10G 6.5#/M fall 1995, Engage 10G 7.5#/M fall 1996



gen treatment. The weakness of the Wisconsin study is that there was only one dollar spot epidemic rated. Keep these results in mind when thinking about fungicide efficacy windows and non-target effects of fungicides.

#### Acknowledgements

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#### References

Burpee, L. L., Mueller, A.E. and D. J. Hannusch. 1990. Control of Typhula blight and pink snow mold of creeping bentgrass and residual suppression of dollar spot by triadimefon and propiconazole. Plant Dis. 74:687-689.

Couch, H. B. 1991. Increase in incidence and severity of target turfgrass diseases by certain fungicides. Plant Dis. 75:1064-1067.

Figure 1. Average dollar spot ratings from 6/26/96 to 8/19/96. Error bars are the standard error of the average. 🌱

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