

# Effect of Sustâne Natural Fertilizer on Diseases of Cool-season Turfgrasses 1991-1996

Eric Nelson, Ph.D. Cornell University, Ithaca New York

“Of all the natural organic materials commonly applied to turfgrasses, composted amendments have been among the most consistently effective in reducing the severity of turfgrass diseases. Composted turkey litter (Sustâne) and other poultry manure composts are consistently more suppressive to a wider range of diseases than are brewery and municipal biosolids in field experiments.”

“Populations of microorganisms in soils receiving Sustâne compost are frequently greater than those found in soils receiving applications of compost that harbor much higher populations of microbes.”

“Preliminary results from our studies suggest that the suppression of Pythium diseases of creeping bentgrass by Sustâne compost is largely a result of the stimulatory effects on soil microbial communities.”

“Results of preliminary studies have indicated that a dormant application of certain composts to golf course putting greens in the late autumn appears to provide promising protection for greens not only from winter damage, but also from snow mold damage. There were two intriguing observations from these preliminary experiments:

- First, higher levels of soil bacteria were observed in plots that had been treated with the (Sustâne) composted turkey litter the previous fall than in untreated plots or plots treated with composted cow manure. The increased levels of bacteria were evident as late as mid-July of the following season.
- Second, whereas significant levels of Typhula blight developed in untreated plots, those treated with either compost stayed essentially disease free throughout the winter and were of substantially higher quality the following spring.”

Dr. Eric B. Nelson, Cornell University Department of Plant Pathology  
Excerpts from “Enhancing Turfgrass Disease Control with Organic Amendments” Turfgrass Trends 6-96

*“Results of studies conducted over the past 10-15 years have clearly shown the potential for compost amendments to reduce the severity and incidence of a wide variety of Turfgrass diseases, particularly when applied either as a topdressing, a winter cover, a root zone amendment, or as an aqueous extract (compost tea).”<sup>1</sup>*

*“Pre-plant organic amendments incorporated into root zones such as those used in sand-based golf course putting greens may have a dramatic long-term disease control efficacy.”<sup>1</sup>*

Biological Suppression of Various Turfgrass Diseases with Compost and Organic Amended Topdressings <sup>a</sup> E.B. Nelson Cornell University 1991					
% Disease Control by organic amendment					
Organic Amendment	Brown Patch	Dollar Spot	Red Thread	Pythium Root Rot	Typhula Blight
Sustâne 5-2-4	75.0*	30.3	78.7*	52.6*	15.2
Fungicide Standard <sup>c</sup>	88.9*	97.0*	---	42.1	33.3
Sludge Compost B	8.3	0.0	0.0	---	---
Leaf Compost	38.9	4.5	0.0	---	---
Horse Manure Compost	0.0	0.0	0.0	---	54.5*
Greens Restore <sup>b</sup>	66.7*	65.7*	8.5	47.4	0.0

<sup>a</sup> Determined 30, 13, 27 & 19 days post-application for Dollar Spot, Brown Patch, Red Thread and Pythium Root Rot. Grey snow mold 6 mos. post application.  
<sup>b</sup> Greens Restore is an uncomposted organic fertilizer composed of plant and animal meals.  
<sup>c</sup> Fungicide Standard for all diseases except Pythium consisted of Banner applied at 4 oz/1,000 sq. ft. For Pythium root rot, Subdue was applied at 2 oz / 1000  
\* Numbers followed by an (\*) indicate statistically significant levels of disease control as compared with untreated plots.