

Biological Control of Red Thread on Perennial Ryegrass

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1990

Our approach, as in the previous biocontrol studies, was to introduce individual microbial antagonists as well as complex mixtures of antagonists through top-dressing applications. Top-dressing formulated with sand:organic matter mixtures were applied to perennial ryegrass ('Palmer') to evaluate their effectiveness in suppressing Red Thread (*Laetisaria fuciformis*). A disease-suppressive microflora was introduced into top-dressings as complex microbial mixtures found in composted organic wastes and organic fertilizers composed of various plant and animal meals. Topdressing formulations consisted of 70% fine sand and 30% organic component (v:v) and were applied at the rate of 400 cm³/0.8 m² plot. One application was made and plots evaluated for disease severity approximately one month later. Cutting height was maintained at 1.5 inches throughout the experimental period.

Of all the treatments evaluated, only Sustane (5-2-4) (poultry litter compost) was effective in suppressing red thread. A high level of suppression was observed at least 27 days after application. Diameter of infection centers was also reduced as compared with untreated plots and other compost treatments (data not shown).

Table 1. Suppression of Red Thread on Perennial Ryegrass ('Palmer') with Compost-Amended Top Dressings, Ithaca, NY

Treatment	(8/01/89) (27 days post-applic.) % Plot Area Diseased
Untreated	47 ab
Ringer "Compost Plus"	20 bc
Ringer "Greens Restore"	43 abc
Turkey Manure Compost (Sustane)	10 c
Endicott Sludge Compost	40 abc
IPS Cow Manure Compost	43 abc
Baltimore Sludge Compost	23 abc
Peat	37 abc
AB Brewery Compost	30 abc
Endicott Leaf Compost	53 ab
MH Manure Compost	53 ab
Schen. Sludge Compost	57 a
Spent Mushroom Compost	53 ab

Numbers followed by the same letter are not significantly ($P=0.05$) different according to the LSD test.