

VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

Q: Will milky spore disease be an effective control for a severe white grub problem in lawns? (Maryland)

A: The use of milky spore disease bacteria for control of Japanese beetle grubs is one method of biological pest management. This bacterial disease is believed to be caused primarily by *Bacillus popilliae*. The commercial products such as Doom or Japidemic are registered for control of Japanese beetle larvae only. Under ideal situations the milky spore disease may provide 70% - 80% grub control in a given year.

The milky spore disease powder is expensive because it presently must be recovered from infected grubs; artificial propagation methods are not available.

Apply spore powder in a grid at 4' - 10' spacing with one level teaspoon per spot (2#-10#/acre). For ease of application, spore powder also can be mixed with soil or fertilizer for broadcast treatment. Results depend upon the rate and method of application, larval population and soil temperature; more material, high grub populations and warm temperatures decrease the time required for effective control. The material has to go through the thatch and grubs must feed on bacterial spores which parasitize the grubs. The bacteria multiply and many spores are released when the infected grubs die. It may take 3 - 5 years, or perhaps longer, for the proper establishment of the disease bacterium in the soil.

Q: What is the present thought on the effect of biological thatch decomposers for turfgrass use?

A: Variable results have been observed by researchers working with biological decomposers. Improved decomposition has been reported in some instances where artificial inoculations were made, however, the general feeling is that cultural practices such as watering more deeply and less often and letting the surface soil dry to discourage surface roots are more effective.

Q: I have heard many good comments about Oftanol 5% G insecticide for lawn pest control. Will one treatment of lawns with Oftanol for grub control also suppress surface insects such as chinch bugs, sod webworm and billbug?

A: Oftanol 5% G, manufactured by Mobay Company, is an organophosphate insecticide which recently received a 24C label for turf insect use. Research reports indicate that Oftanol is effective for grub control and will provide season-long control.

If applied at the proper time, one treatment with Oftanol can control the surface insect adults which are active at that time. Once the material moves deeper into the thatch and soil, its effectiveness on surface insects is uncertain. Further research is needed to determine the extent of the effect of Oftanol for control of surface insects.

Q: Several companies market gypsum as a soil conditioner for heavy clay soils. Is gypsum effective in loosening heavy clay? (Illinois)

A: Gypsum or calcium sulfate will modify soil structure when applied to soils of the semiarid midwestern and western areas which contain an excess of exchangeable sodium. Gypsum improves water infiltration and aeration by replacing the sodium with calcium which encourages the aggregation of soil particles. Gypsum will not improve a soil impermeable due to compaction or fine texture.

Q: Blue spruce trees which are well established (10 years) are losing needles from ground level upward. There is much white, sticky exudate on the trunks and some branches. I suspect insect injury but have found no insects. What could be the problem, and can you suggest treatment for recovery? (Indiana)

A: Based on the description of the problem, it would seem that the blue spruce trees may have cytospora canker, a fungal disease which develops on stress-weakened plants and often produces white, resinous exudate. Cytospora progresses gradually from lower branches upward causing foliar discoloration and defoliation.

Research has not provided recommendations for control. We suggest that you prune and destroy affected parts. Disinfect pruning tools between cuts. Water and fertilize as needed to help improve the vigor of the trees.

Q: I have a small landscaping firm and suspect that sod is sometimes injured by herbicides applied either by the grower or by the home owner after the sod is laid. What are the effects of broadleaf herbicides on bluegrass sod? (Ohio)

A: Mature Kentucky bluegrass sod can be safely treated with mixtures of 2,4-D with either Dicamba or Mecoprop if applied at least four weeks before or after harvest in the spring, or four weeks before harvest in the fall.

Note: In the Vegetation Management column in the July 1982 issue of Weeds Trees and Turf, in answer to the question, "Are there any approved retardants for turf?" we mentioned the product "melfluidide" as being EMBARK but we inadvertently listed the wrong manufacturer. Embark® Plant Growth Regulator (PGR) is a registered product and trademark of 3M.

We are sorry for the error and appreciate the fact that it has been brought to our attention.

Send your questions or comments to: Vegetation Management c/o WEEDS TREES & TURF, 757 Third Avenue, New York, NY 10017. Leave at least two months for Roger Funk's response in this column.