Evaluation of Long Term Lawn Care Programs on the Turfgrass Soil Microbial Community. (C05-hamza092951-Oral)

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Abstract:

Managed turfgrass is an important component of our home landscapes, yet little is known about the effects of the various turf management programs on the soil microbial community. Soil samples collected at the TruGreen Research Center from plots subjected to nine turf treatment regimes. Samples taken from the plots and from adjacent crop field were evaluated for microbial count, C and N mineralization rates, nitrification potentials, and soil nitrates. Data showed that microbial population counts were generally not affected by the treatment regimes and bacterial count in the rhizosphere was found higher in the turf plots. Mineralization potentials were also found significantly higher in turf plots than in crop field. Turf accumulated more CO2 and NO3 than in the cropland. Nitrification rates were shown to be significantly dependent on the treatment regime. Those rates were significantly higher in the turf soil samples than those in the nearby crop field. Nitrate levels in turf plots in 1998 ranged from 0.3 to 0.6 ppm in the spring and 3 to 4 ppm in the summer. These levels were comparable to nitrate levels in home lawns near the Michigan State University

campus.

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