Nitrogen in Soil Water and Ground Water below Landscape Nursery Crops, Fallow Fields and Forests. (A05-hart105019-Oral)

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Abstract:

Below root zone lysimeters sampled weekly for no, operational, and relative application rate fertilization peaked July-August 2001 at 17, 23 and 28 mg nitrate-N per L across two Euonymus fields. Fertilized treatments did not differ, but exceeded controls. Two Taxus nursery fields peaked at ~17 for all treatments. Shallow groundwater collected monthly averaged 23 mg per L in February, 17 in June-July-August, and 27 in November. Dates differed, but treatments and species did not. Groundwater in two adjacent forests averaged 0.8. Groundwater in old and new fallow fields averaged 7.2 and 16.2. Chlorosis was not evident in 2001. Similar growth patterns and foliar N levels occurred for each species regardless of treatment. In 2002, chlorosis, lower foliar N and treatment growth effects are evident. Nitrate, nitrite, ammonium, dissolved organic N and total N concentrations will be reported for the 3 treatment 3 replicate field study and for additional fallow fields, forests, cover crops, and older unfertilized Taxus fields. Relationships to days since fertilization, N-rate, precipitation, and water balance leaching prior to sampling will be explored and reported.

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