Nitrogen Mineralization Measurements on Reciprocally Transplanted Soil Cores One Year After Transplant. (S03-mcmahon104335-Poster)

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Abstract:

We measured nitrogen mineralization in cores from a reciprocal transplant experiment conducted at two high elevation sites at the H. J. Andrews Experimental Forest in the Cascade Mountains of Oregon. The objective was to see how soils respond to a change in vegetation and environment. Each site had adjacent grassland meadow and coniferous forest vegetation. Soil cores were collected from both vegetation types and randomly assigned to the open/closed and remaining/transplanted treatments. Nitrogen mineralization was measured by incubating soil for 28 days. At time = 0, 1, 2, 3, 4 weeks, ammonium and nitrate were extracting using 2M KCl. Initial ammonium levels were higher in forest than meadow soils. Ammonium levels were dynamic in forest soils, generally decreasing with time, whereas levels remained consistently low in meadow soils. The patterns of ammonium concentrations in forest and meadow soils were fairly constant regardless of transfer status. Soil origin and transfer status seemed to influence nitrification. Nitrate levels increased over time in all meadow soils. Forest soils that remained in place had low levels of nitrate, whereas nitrification in forest soils transferred to the meadow shifted to resemble native meadow nitrate production.

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