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FACTORS CONTROLLING KEY NITROGEN FLUXES IN GRASSLAND ECOSYSTEMS: CASE STUDIES – SOUTHERN ROMANIA

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Abstract

Enhanced nitrogen inputs to both terrestrial and aquatic ecosystems affects biodiversity at all its levels. Grasslands provide a complex range of functions, due to their wide representation throughout terrestrial ecosystems. Numerous studies demonstrate soil acidification, eutrophication and species richness reduction as a result of elevated reactive nitrogen availability. The present study aims to assess soil nitrogen stocks and transformations for two Romanian grasslands during November 2011 – November 2013, integrating the microbial population dynamics of two important functional groups involved in terrestrial nitrogen cycle: ammonifiers and denitrifiers. Our research focused on pristine systems, as well as on an experiment that simulated high nitrogen inputs of 100 kg N/ha/year (during 2012 and 2013) for one of the two selected study areas.

Key words: grassland, microbial processes, mineralization, nitrogen fertilization, nitrogen fluxes

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