

Extractable amino sugar-like N in forest soils

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Amino sugar can be an important available N form in soils for soil microbes, although our knowledge on the dynamics of amino sugar in soils is quite limited. Many studies measured the concentrations of hydrolyzable amino sugar, which can be several percent of the total hydrolyzable nitrogen in the soil, the concentrations of readily available form of amino sugar such as dissolved free amino sugar and extractable amino sugar are seldom measured. We modified a classic "diffusion method" (Mulvaney and Khan 2001) to measure the amino sugar-like N in the soil extract (H₂O and K₂SO₄ extracts) to see the potential importance of this unmeasured nitrogen pool in the soil. We found that the concentration of extractable amino sugar-like nitrogen is as same as the inorganic nitrogen, which implies that this pool can be an important available nitrogen pool for soil microbes. We will discuss the characteristics of this new nitrogen pool based on the concentrations and its nitrogen isotope ratio.