

Title	Does nitrate fertilization induce NO_x emission from scots pine (<i>p. sylvestris</i>) shoots?
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Abstract	<p>Aims The possibility of NO_x (NO + NO₂) emissions from plants and the underlying mechanisms are still under discussion. Excess NO created possibly as a result of nitrite accumulation in plant leaves has been suggested to result in emissions. Such emission has been observed in laboratory conditions due to nitrate fertilization. In this study, we tested whether nitrate fertilization of Scots pine seedlings growing outdoors leads to accumulation of NO₃⁻ or NO₂⁻ in the needles and subsequent NO_x emission. Methods The experiment was done at the SMEAR II station in Southern Finland. The seedlings received nitrate or ammonium fertilizer or neither. Shoot NO_x emissions were measured with dynamic chambers. Total dissolved nitrogen, inorganic nitrogen, NO₃⁻, NO₂⁻ and NH₄⁺ concentrations in the soil and needles were determined.</p>
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keywords	Nitrogen oxides, Shoot emissions, Chamber measurements, Nitrogen fertilization