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SIMOJOKI, ASKO, XUE, TAILIN, LUKKARI, KAARINA, PENNANEN, ARJA, HARTIAINEN, HELINÄ, Allocation of added selenium in lettuce and its impact on roots

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## Abstract

Allocation of selenium (Se) in lettuce and its impact on root morphology were studied to better understand the growth responses added Se. Lettuce was grown in vermiculite under controlled growing conditions for seven weeks, and the allocation in the shoos selenate added in increasing dosages (0, 1, 10, 100, 500 and 1000 礸 Se per 3.5-litre pot) as well as morphological variables of were determined. The intermediate additions of 100 and 500 礸 Se per pot seemed to produce the highest biomasses, although this masked by large scatter in the data. The Se contents both in roots and shoots increased roughly proportionally to the amount of However, at small additions Se was preferentially allocated to roots, whereas at larger additions the contents in roots and shoots matter) were roughly equal. Se treatments did not change the morphology of hypocotyls. On the contrary, the specific length basal and lateral roots were smallest at intermediate Se additions, whereas the specific volume was largest at the largest Se effects of Se on root morphology were, however, not unambiguously related to plant growth. As the Se contents in roots increased grew thicker and the specific volume of lateral roots increased in agreement with a hypothesis of increased endogenous ethylene

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