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PAASIKALLIO, ARJA, SORMUNEN-CRISTIAN RIITTA, RIITTA,  
Harvesting strategy and N fertilization influence  $^{134}\text{Cs}$  uptake by forage plants

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## Abstract

The root uptake of  $^{134}\text{Cs}$  by forage plants was studied as a function of growth stage and N fertilization with biotite supplement. The study was conducted by means of pot experiments with peat soil. In the growth stage studies, ryegrass, white clover and yellow-flowered lucerne were cut once 30, 60 or 90 days after sowing or three times at intervals of 30 days. In the one-cut system, at 90 d, the activity of  $^{134}\text{Cs}$  in ryegrass and clover was higher and that in lucerne lower than in the three-cut system. In both treatments, the activity concentration in ryegrass decreased and that in legumes, generally, tended to increase with time. In the N fertilization studies, plants were grown at different levels of ammonium nitrate (100, 200 and 400 mg N l<sup>-1</sup>) and biotite (0, 10, 20 and 40 g l<sup>-1</sup>) application. The activity of  $^{134}\text{Cs}$  in soil increased and that of biotite decreased the  $^{134}\text{Cs}$  activity concentration in ryegrass. The differences in forage  $^{134}\text{Cs}$  uptake between two harvesting systems were small. Although ammonium nitrate increased the  $^{134}\text{Cs}$  uptake by ryegrass, in the event of fallout, more ammonium fertilizer could be used provided that biotite or K are applied at adequate levels.

Contact [arja.paasikallio@mtt.fi](mailto:arja.paasikallio@mtt.fi)

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