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PAPER TITLE Potential transfer of radiocaesium to man from Swedish
forest ecosystems

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ABSTRACT (See instructions overleaf)

Transfer of ^{137}Cs to man from the forest ecosystem is high in Sweden. The main pathways are soil-plant/mushrooms-game animals-man, soil-berries-man and soil-mushrooms-man. Ericoid plants show high uptake of ^{137}Cs and are very important fodder plants for some game animals such as moose and roe deer. Even higher levels of ^{137}Cs is found in fruitbodies of fungi and mushroom picking is very common in Sweden. Mushrooms are also very important as fodder for game animals particularly for roe deer. We have determined transfer parameters for the various transfers and by using them, the mean ground deposition of ^{137}Cs in Sweden or in specific regions of Sweden and data of production and consumption of various food products from the forest ecosystem the potential transfer of radiocaesium to man has been calculated.

The ^{137}Cs levels in moose and roe deer has not decreased from 1986 to 1994 indicating a very long effective ecological halflife of ^{137}Cs in the forest ecosystem. We use the physical halflife as an estimation of the effective ecological halflife. The potential transfer of radiocaesium to man by game animals - moose and roe deer - correspond to a time-integrated dose commitment of about 2,000 manSv i Sweden. The corresponding value for berries is 1,500 manSv. Only rough estimation of the corresponding value for mushrooms will be presented due to lack of knowledge about the consumption pattern.

The conclusion is that a major fraction of the potential doses to the Swedish population due to the Chernobyl fallout will be due to transfer of ^{137}Cs from the forest ecosystem.