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Impact of land-use change on nutrient fluxes in a structured clay-loam soil

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Abstract Accepted management practices influence the distribution of surface-vented macropores and thus the nutrient fluxes in soil. Two ways to assess the impact of land-use change on nutrient fluxes in soils are presented: (a) estimating the bypassing ratio at the interface between the root zone and subsoil, and (b) monitoring the non-reactive tracer relative concentration vs depth distributions in the course of infiltration experiment. The 1993–1996 small-scale field experiments have shown that the bypassing ratio varied from 19 to 55% in a structured clay-loam soil. Impact of land use on the tracer relative concentration vs depth distributions was significant for small and medium cumulative infiltration (I = 40–54 mm) but not so significant for the bigger cumulative infiltration (I = 100–108 mm).