



Tillage erosion at the regional scale

K. Van Oost (1), G. Govers (2) and T.A. Quine (3)

(1) Physical Geography, Université catholique de Louvain, Louvain-la-Neuve, Belgium, (2) Katholieke Universiteit Leuven, Heverlee, Belgium, (3) University of Exeter, Exeter, UK
(kristof.vanoost@uclouvain.be)

Tillage erosion has been identified as an important global soil degradation process that has to be accounted for when assessing the erosional impacts on soil functioning, soil productivity and overall environmental quality. Many studies have illustrated the high redistribution and soil loss rates associated with the process, using sediment tracers techniques (^{137}Cs), experimental approaches or models. However, most of these studies were performed in small micro watersheds while the wider impact of tillage erosion and its relative contribution to total soil losses at the regional/continental scale remains highly uncertain.

Here, we present a new approach that allows to estimate rates of tillage erosion at the regional scale and discuss the uncertainties involved. An application of our approach suggests that tillage erosion is at least as important as water erosion at the European scale.