



Leaf waxes, compound-specific D/H and ^{14}C analyses in the Loess Paleosol Sequence Möhlin, Switzerland

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Leaf waxes, such as long-chain n-alkanes and n-alkanoic acids, and their D/H isotopic composition, are increasingly used for paleoenvironmental and –climate reconstructions. Recent technological innovations now also allow to perform radiocarbon analyses on leaf waxes. For this study, we analyzed leaf waxes and their δD and ^{14}C composition in the 7 m Loess Paleosol Sequence Möhlin, Switzerland. The chain length patterns in the upper part of the profile indicate n-alkane contribution from deciduous trees, while the underlying loess is dominated by inputs from grasses and herbs. Our δD record does not show depleted, glacial values compared to the Holocene, as we had expected in analogy to the Greenland ice core records. Values are most enriched at 1 m depth, i.e. well below the topsoil. Further research is needed to disentangle source effects and evapotranspirative enrichment, before the δD record can be interpreted robustly. Our radiocarbon ages for the leaf waxes are in very good agreement with independent age control based on luminescence ages, corroborating that massive loess accumulation occurred already at 35 ka. Only the uppermost 3 m were deposited during the last glacial maximum.