

Soil and water pollution in a banana production region in tropical Mexico.

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Abstract

The effects of abundant Mancozeb (Mn, Zn-bisdithiocarbamate) applications ($2.5 \text{ kg ha}^{-1}\text{week}^{-1}$ for 10 years) on soil and surface-, subsurface- and groundwater pollution were monitored in a banana production region of tropical Mexico. In soils, severe manganese accumulation was observed, whereas the main metabolite ethylenethiourea was near the detection limit. Surface and subsurface water was highly polluted with ethylenethiourea, the main metabolite of Mancozeb (22.5 and $4.3 \mu\text{g L}^{-1}$, respectively), but not with manganese. In deep ground water, no ethylenethiourea was detected. The level of pollution in the region presents a worrisome risk for aquatic life and for human health.

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