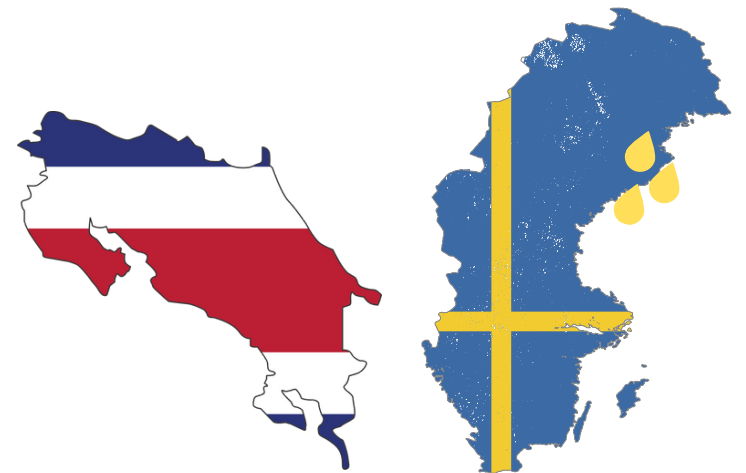


Detection of the fungicide transformation product 4-hydroxychlorothalonil (HCT) in pregnant women's serum in Sweden and Costa Rica

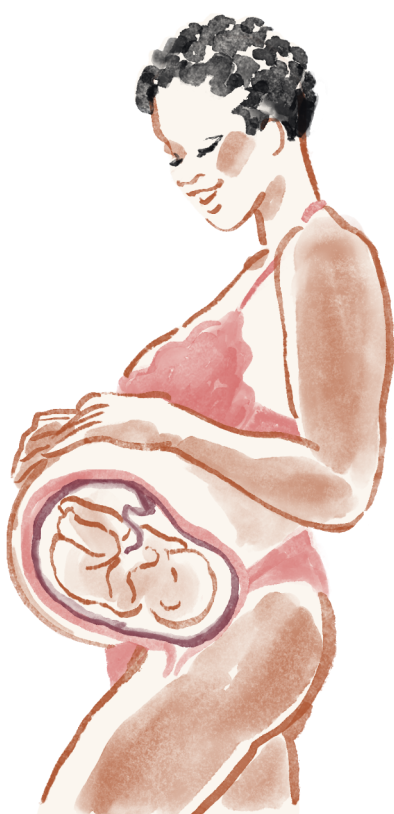
Why did we do this study?

A method was recently developed to measure 4-hydroxychlorothalonil (HCT, R182281), a metabolite of the fungicide chlorothalonil, in human serum. There are indications that HCT may be more toxic and persistent in the environment than chlorothalonil. In Costa Rica, chlorothalonil was widely used, among others in banana cultivation, until it was banned in 2023. It was banned for possibly causing cancer and being able to persist for a long time in the environment.



What did we do?

We measured the presence of HCT in the blood serum of pregnant women in Sweden and Matina County, Costa Rica.



What did we find?

HCT was detected in all serum samples.

The amounts were generally four times higher in the samples from the Costa Rican women compared to the Swedish women.

Women who worked in agriculture and/or lived near banana plantations at the time the blood serum samples were collected (2010-2011) had higher amounts of HCT. Women who had given birth to more children and/or a partner working in agriculture had lower amounts of HCT.



What did we conclude?

Elevated concentrations in samples obtained from the pregnant women in Costa Rica could be explained by aerial spraying of chlorothalonil at the time of sample collection.

Reference: Kraus, A. Van Wendel de Joode, B. Rietz, E. Blomberg, A. Rönholm, A. Bengtsson, M. Cano, J. Hoppin, J. Littorin, M. Nielsen, C. Lindh, C. (2023). Detection of the fungicide transformation product 4-hydroxychlorothalonil in serum of pregnant women from Sweden and Costa Rica.

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