

## Combined exposure to low doses of pesticides causes decreased birth weights in rats - DTU Orbit (09/11/2017)

### Combined exposure to low doses of pesticides causes decreased birth weights in rats

Decreased birth weight is a common effect of many pesticides in reproductive toxicity studies, but there are no empirical data on how pesticides act in combination on this endpoint. We hypothesized that a mixture of six pesticides (cyromazine, MCPB, pirimicarb, quinclamine, thiram, and ziram) would decrease birth weight, and that these mixture effects could be predicted by the Dose Addition model. Data for the predictions were obtained from the Draft Assessment Reports of the individual pesticides. A mixture of equi-effective doses of these pesticides was tested in two studies in Wistar rats, showing mixture effects in good agreement with the additivity predictions. Significantly lower birth weights were observed when compounds were present at individual doses below their no-observed adverse effect levels (NOAELs). These results emphasize the need for cumulative risk assessment of pesticides to avoid potentially serious impact of mixed exposure on prenatal development and pregnancy in humans.

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