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Abstract

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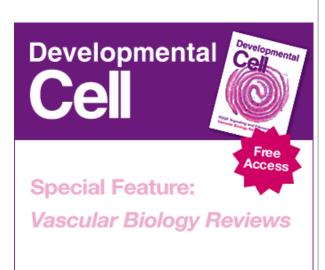
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## **Abstract**

Long-range drift and dry deposition of an aerial insecticide spray onto a forest are calculated from gradient transfer and Markov chain models to 80 km downwind of the spray line. Horizontal homogeneity and neutral stratification with a capping inversion are assumed. The spray droplets are seven-eighths water which evaporates and oneeighth non-volatile Fenitrothion; the initial drop-size distribution is highly polydispersed with mass mean diameter ~ 82 μm.

Results show that at 80 km the models agree within a factor of 2.3 on the fraction of Fenitrothion still airborne (~0.2%), to within a few



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per cent on the mode of the spectrum of surviving droplets,  $\sim$  22  $\mu m$ , and substantially on the largest surviving droplet,  $\sim$  40  $\mu$ m. Results are shown to be sensitive to the assumed source configuration, the initial droplet spectrum and the droplet evaporative behaviour.

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