# O.59 - Terrestrial bioaccumulation: experimental approaches on an arthropod prey-predatory mite system

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Accurate risk assessment is the main element in identifying persistent organic pollutants. When developing toxicity and ecotoxicological tests, new problems arise due to new modes of action of certain pesticides. The ability of some pesticides to pass trough a gravid female into the embryo, known as 'transovarial transport', could lead to magnification processes by enhancing both residual activity and movement of the active ingredient. Shown by simple standardised tests, one out of five new acaricides registered for use in the United States provoked a total reduction of fertility on *Galendromus occidentalis* Nesbitt (Acari, Phytoseiidae) that consumed eggs laid by treated phytophagous mite females, *Tetranychus urticae* Koch (Acari, Tetranychidae). It did not affect parasitoid emergence on a host/parasitoid system; *Lobesia botrana* Dennis & Schiffermuller (Lepidoptera, Tortricidae) and *Trichogramma cacoeciae* Marchal (Hymenoptera, Trichogrammatidae). These results suggested a need for bioaccumulation in order for these dose-dependent active ingredients to take effect. At the population level, a negative relationship between proportion of treated females released and predator instantaneous rate of increase was obtained, suggesting dietary bioaccumulation by the predator. The behaviour of these pesticides should be tested before inclusion into plant protection programmes due to the potential risk of bioaccumulation.