

Widely used pesticide toxic to honeybees

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An international research team—Drs. Stephan Carvalho, Luc Belzunces and colleagues from Universidade Federal de Lavras in Brazil and Institut Nationale de la Recherche Agronomique in France - concludes that the absence of mortality does not always indicate functional integrity.

Deltamethrin, fipronil and spinosad, widely used pesticides in agriculture and home pest control, were applied to healthy honeybees and proved toxic to some degree irrespective of dosage.

At sublethal doses, the pesticides modulated key enzymes that regulate physiological processes, [cognitive capacities](#) and immune responses, such as homing flight, associative learning, [foraging behavior](#) and brood development. Sensitivity to these insecticides and foraging range (as far as 1.5 to 3 km) make *A. mellifera* an optimal candidate for monitoring the environmental impacts of pesticides.

Provided by Society of Environmental Toxicology and Chemistry

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