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Effects of atrazine on acetylcholinesterase activity in midges (*Chironomus tentans*) exposed to organophosphorus insecticides

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Abstract

Acetylcholinesterase activity was determined for midge larvae (*Chironomus tentans*) exposed to either organophosphorus insecticides (OPs) alone or OP insecticides in binary combination with atrazine (200 µg/l). Although atrazine by itself did not reduce the level of acetylcholinesterase activity, atrazine in combination with chlorpyrifos significantly decreased acetylcholinesterase activity as compared to chlorpyrifos only treatments. Although similar trends existed for malathion and methyl parathion, differences were not statistically significant. These results match previously published toxicity data where atrazine, although not acutely toxic even at much higher levels, decreased EC₅₀ values for chlorpyrifos by a magnitude of 4, decreased methyl parathion values by a magnitude of 2, and did not decrease values for malathion. © 2001 Elsevier Science Ltd. All rights reserved.

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