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Effects of Triazine Herbicides on Organophosphate Insecticide Toxicity in *Chironomus tentans* and *Hyaella Azteca*

Abstract:

*The purpose of this research was to examine the effects of select triazine herbicides on organophosphate insecticide toxicity. The toxicity of the organophosphate insecticide, chlorpyrifos, was measured separately and in binary mixtures with 10 different triazine herbicides using 4th instar larvae of the aquatic midge, *Chironomus tentans*, and the juvenile aquatic amphipod, *Hyaella azteca*. Preliminary studies with the triazine herbicides indicated no significant toxicity effects to either organism when dosed alone. However, with nearly every triazine, binary mixture studies showed greater than additive effects relative to the toxicity of chlorpyrifos alone. These effects were greater overall to *C. tentans* compared to *H. azteca*, with some of the triazines causing a doubling in the toxicity of chlorpyrifos. These results should be of interest to water managers responsible for policy decisions because it provides important information on acceptable concentrations of commonly occurring pesticides that do not follow the concentration addition model.*

Author: Andrew Trimble