

Study finds better way to battle mosquitoes

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Protecting ourselves from backyard mosquito bites may come down to leaving the vacuuming for later, a study from York University shows.

Rather than vacuuming the grass clippings out of catch basins before adding treatments to control mosquitoes, municipalities should leave the [organic waste](#) in place, the research found.

"Catch basins are a permanent source of mosquitoes on every street. By putting S-methoprene in cleaned catch basins we saw an average of 20 per cent of the [mosquito larvae](#) make it to the adult stage over the duration of the study. But that number was reduced to less than 3 per cent just by leaving the organic debris in the catch basins until the fall, when mosquito season is over," says Norman Yan, a professor in York University's Department of Biology.

Yan and former York master's student Stacey Baker co-authored a study published in the current issue of the *Journal of the American Mosquito Control Association*. They were surprised by the results of the research, conducted by Baker in 2005 on residential streets in the Greater Toronto Area.

"We predicted that S-methoprene would work better in the catch basins that had been cleaned. We found the opposite - that S-methoprene binds to organic material, which holds it in the catch basins longer so that mosquito larvae are exposed to it for longer," says Baker.

The research may have implications not only for our comfort levels, but

for disease control, says Yan. The human [West Nile Virus](#) rate and the number of positive mosquito pools have been lower in the past two years in Ontario, but it remains a problem in some areas of the United States, and warmer temperatures and a wet season could increase the risk in Ontario. The West Nile Virus is not carried by all mosquitoes but it can lead to severe symptoms and even death.

Public health units in Ontario determine if and when they will larvicide based on their surveillance of the level of risk. S-methoprene, which is used in Canada only for control of West Nile Virus, is still being used in hundreds of thousands of catch basins in the GTA, but there has been no thought given to the cleaning schedule, according to the authors. The study demonstrates that scheduling both the application of S-methoprene and the removal of debris makes sense, they said, and it may be worthwhile to clean the catch basins every two years instead of annually.

"Accumulated Organic Debris in Catch Basins Improves the Efficacy of S-methoprene against [Mosquitoes](#) in Toronto, Ontario, Canada" appears in the *Journal of the American Mosquito Control Association*. York University's Knowledge Mobilization Unit, which seeks to maximize the impact of academic research on public policy and professional practice, has sent a summary of the research findings to Ontario's public health units.

Provided by New York University

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