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Attractiveness of Three Gravid Trap Infusions for Ovipositing Polynesian Tiger Mosquitoes (*Aedes polynesiensis*) in American Samoa

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ABSTRACT

The Polynesian tiger mosquito, *Aedes polynesiensis*, is a carrier of filariasis, chikungunya and dengue in American Samoa. The most commonly used tool for monitoring *Ae. polynesiensis* is the BG Sentinel trap; however, this trap catches relatively few mosquitoes and targets females searching for a blood meal. Recently developed gravid traps targeting females that have already blood-fed and are searching for oviposition sites may be a better alternative. But results of the initial trials of these gravid traps using a weedy grass hay infusion lure were disappointing. This experiment evaluates two alternative infusions made from dried banana leaves and Bermuda grass hay. We hypothesize that the Bermuda grass or banana leaves infusion may be more attractive to *Ae. polynesiensis* than the weedy grass infusion.

Ovicups containing weedy grass hay, dried banana leaves and Bermuda grass infusions were arranged in a randomized complete block design in mixed vegetation on the American Samoa Community College campus. After three days, the egg sheets were collected from the cups, the eggs hatched, and the larvae raised to fourth instar to identify the species. The experiment was repeated three times and the average eggs were compared to determine the most effective infusion.

If either the banana leaves or the Bermuda grass infusion proves more attractive than the weedy grass hay infusion, use of the more effective infusion in the new gravid traps may improve their efficacy and provide a valuable new tool for future research and better management of this important disease vector.

Key Words: Ovicups, *Aedes polynesiensis*, Vector-borne Diseases, Surveillance, Monitoring

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