

Is there life after Golden Bear? Operational evaluation of alternative larvicides

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Abstract:

The larvicidal oil Golden Bear 1111 (GB-1111) is one of the most effective and widely used mosquito control agents in California. Due to recent concerns about the continued availability of this material, we evaluated the efficacy of several alternative larvicides, including methoprene, *Bacillus thuringiensis israelensis*, *Bacillus sphaericus* and Agnique MMF relative to GB-1111 under normal field conditions. Materials were applied and pre- and post-treatment larval and pupal samples were collected by vector control technicians during the course of routine field operations. *Bacillus* products were consistently as effective as GB-1111 against larvae. Results with methoprene were also good but less consistent. Agnique exhibited extremely variable and generally low efficacy except at the highest allowable application rate. None of the products were as effective as GB-1111 against pupae. Use of these alternative larvicides will therefore require enhanced surveillance to ensure effective prevention of adult mosquito emergence.