

MICHIGAN MOSQUITO CONTROL ASSOCIATION
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Title: Please Don't Pass the Vegetables: Algae Are Apparently Not an Important Resource for *Aedes japonicus* Larvae in Michigan

Abstract: The mosquito *Aedes japonicus* is native to Asia and invasive in North America and Europe. This species breeds in both natural and artificial water-filled containers that vary considerably in size, composition and content. Due to the status of *A. japonicus* as a potential disease vector, it is important to recognize key ecological factors leading to its success in its invasive range. Algae are a valuable food source for invertebrates in many aquatic ecosystems, and may provide mosquito larvae in sunlit and partially shaded containers with an additional resource. Larvae of *A. japonicus* are known to colonize containers with visible algal growth in both their native and invasive ranges, and thus may benefit from the utilization of algae as a food source. The objectives of this study were to determine the effects of algae on the colonization, growth, and competitive success of larval *A. japonicus*. In a field experiment, we utilized artificial containers with canopies of varying shade levels to manipulate algal densities and examined oviposition preferences. We did not observe an effect of algal density on *A. japonicus* ovipositional activity, suggesting that selection of oviposition sites by this species is not driven by algal resources. In laboratory experiments, we compared the production rates of *A. japonicus* with local species *Aedes triseriatus* and *Culex pipiens* in microcosms containing two levels of algal growth. Preliminary analyses indicate similar survival rates of *A. japonicus* in both "high" and "low" algal density treatments, suggesting that algae may not be an important resource for this species. However, both *A. triseriatus* and *C. pipiens* exhibited greater survival ($p < 0.001$) in the high algal treatment than in the low algal treatment. Further analyses of our experimental results will be discussed. Our findings from these studies highlight the importance of future investigations into characteristics of water-filled container habitats that lead to differential success of larval mosquitoes.

Student Biography: Amanda is a Master's student in the Department of Entomology at Michigan State University. She received her Bachelor's degree from MSU with a major in Zoology in 2005. Amanda is interested in the community ecology of water-filled container habitats.