

**EFFECT OF pH ON THE DEVELOPMENT OF THE PRIMARY
DENGUE VECTOR, *Aedes aegypti***

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Aedes aegypti is the primary vector of many viruses that cause diseases such as dengue, zika, yellow fever, and chikungunya. The development of mosquito larvae depends on factors such as larval density and breeding water pH and temperature. The aim of this study was to examine the impact of pH on the growth and development of larvae of *A. aegypti* under laboratory conditions. Ten first instar larvae obtained from laboratory colonies of *A. aegypti* were introduced to each buffer solution of pH 5, 6, 7, 8 and 9 (three replicates per pH) with distilled water as the control. The observations were taken for thirteen days. The results indicated that both highly acidic (pH = 5) and highly basic (pH = 9) solutions were lethal to *A. aegypti* larvae, where all the larvae were dead by the end of the 3rd and 5th day, respectively. Only 20% and 16% completed their life cycles at pH 6 and 8 buffer solutions, respectively, showing intermediate survival rates. The optimal growth of *A. aegypti* was observed at pH 7, with 46% of larvae emerging as adults. *Aedes aegypti* completed their life cycle within 10 days at neutral pH condition. Slightly extended developmental periods were observed at pH 6 and pH 8 (12 days and 13 days, respectively). The pH range of 6-8 could be considered as the ideal pH range for the development of *A. aegypti*.

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