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In vitro testing of non-traditional technologies for the control of *Rhipicephalus* (*Boophilus*) *microplus*

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An integrated control program anchored on the use of anti-tick vaccination (BM86) supported by rotation with macrocyclic lactones and essential oils has been successful in controlling *Rhipicephalus (Boophilus) microplus* in Puerto Rico. Additionally, *in vitro* work has shown the benefits of entomopathogenic fungus in combination with essential oils. The success of these approaches may lie in synergistic interactions among the various products used. In this work, we used *in vitro* techniques to determine the levels of control when individual technologies were applied to ticks alone or in combination. The results allow better modeling to predict the benefit of combinations for the control of *R. microplus*, leading to increased efficiencies and safety while realizing high levels of control of *R. micoplus* and the diseases it transmits.