SUMMARY

The ticks are obligatory parasites that attack the man, domestic and wild animals throughtout the world. The tick *Boophilus microplus* is one of the most important concerns in the national cattle raising and it is estimated that the whole brazilian territory is favorable for this parasitosis. The purposes of this work were the developing and evaluating a bioassay with this tick, by checking the *in vitro* pathogeny of two different isolates of the fungus *Beauveria bassiana* (isolates 747 and 986). Engorged females were exposed to the fungus by immersion in conidial suspensions and the lethal doses 50% and 90% were calculated. Each isolate with 180 engorged females wase infected and divided in five treated groups (10^4, 10^5, 10^6, 10^7, 10^8) and one control group. There were 30 ticks for each one. The evaluated parameters were: weight of females before oviposition, weight of egg masses and larval percentage of eclosion. The results showed a low percentage of larval eclosion in the treated groups. A progressive decrease of eclosion was observed following the increase of concentration. Consequently the 10^7 and 10^8 concentrations groups were the ones with high potential for controlling the tick. These are the minimum concentrations for the fungus testing under field conditions. It's very possible that the use of *B. bassiana* for *B. microplus* control would raise the cattle productivity and decrease the environmental pollution.

KEY-WORDS: *Boophilus microplus, Beauveria bassiana*, entomopathogenic fungus, microbial control.