SUMMARY

Samples of the tick *Boophilus microplus*, from Holstein and crossbred immunized cattle with the "Gavac™" vaccine, were collected to evaluate the histological changes on their digestive tract. Engorged females, under different levels, collected from vaccinated and control animals, were chosen and inoculated with 10% formaldehyde through the spiracular plates and anus. These females were then fixed, by entomological pins, on solid paraffin and rinsed in phosphate buffered solution (PBS), for further dissection. Gut caecae were removed and separated from other internal organs. Sections were stained by hematoxylin-eosin and Masson's triple. By light microscopy, it was observed destruction of digestive and secretory cells and, in extreme cases, of the basophilic cells, remaining only the basal lamina. There was also rupture of the gut caecae with contents leakage to the haemocele cavity. These lesions damage the oogenesis process in this tick.

KEY WORD: *Boophilus microplus*, Vaccine, Histopathology, Midgut.