Abstract

The objective of this study was to perform a survey ticks in cattles of Agra region and evaluation of acaricidal efficacy of plant mediated synthesis of silver nanoparticles using Carissa carandas leaf extract. 315 cattles from various areas of Agra were screened for ticks from May to August 2013 and exhibited overall prevalence of 39.68%. Higher prevalence was recorded for calves (56.25%) whereas adults showed 37.8% natural infestations mainly over neck, udder, belly and perineal region.

Adult immersion test (AIT) was used to evaluate the efficacy of Carrissacarandas aqueous extract and silver nanoparticles against cattle ticks. Results show 20% mortality with aqueous extract whereas 40% mortality with AgNPs using highest concentration. The effect was further observed on the reproductive indices of ticks which exhibited significant decrease in RI with increasing concentrations of extract as well as AgNPs.