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Evaluation of efficacy and potency of *Nicotiana*, *Azadirachta* and *Artemisia* leaves solution against ticks in cattle

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An investigative study was done to evaluate the efficacy and potency of *Nicotiana* (Surti), *Azadirachta* (Neem) and *Artemisia* (Titepati) leaves solution against ticks of cattle in Chitwan, Nepal. The naturally tick infected cattle were purposefully selected and load of ticks per square inch at dewlap region of animal was manually determined. 20% w/v solution of stem and leaves of these botanicals were prepared. 15 cattle were randomly divided into five groups according to the following treatments: T1 (animal treated with *Nicotiana* solution), T2 (animal treated with *Azadirachta* solution), T3 (animal treated with *Artemisia* solution), T4 (animal treated with mixture of *Nicotiana*, *Azadirachta* and *Artemisia* solution) and T5 (animal treated with Ivermectin, used as control for the study). TPSI (tick per square inch) was determined at 12, 24 and 48 hours following treatment. After first 12 hours the efficacy of T1, T2, T3, T4 and T5 was found to be 41.96%, 36.10%, 0%, 21% and 0% respectively. There was significant difference among the efficacy of these treatments, df (4, 10) $P < 0.05$. After 24 hours it increased to 43.18%, 38.26%, 0%, 22% and 10.82% respectively. There was no significant difference among the efficacy of these treatments df (4, 10) $P > 0.05$. The cumulative efficacy of these treatments after 48 hours was found to be 66.27%, 58.87%, 45.18%, 52.18% and 72.32% respectively, there was no significant difference among the efficacy of these treatments df (4, 10) $P > 0.05$. Based on the present study the ethnoveterinary use of *Nicotiana*, *Azadirachta* and *Artemisia* against tick was justified and recommendation on the use of these botanicals can be made.

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