World Academy of Science, Engineering and Technology
International Journal of Animal and Veterinary Sciences
Vol:16, No:08, 2022

Epidemiological Study on Prevalence of Bovine Trypanosomosis and Tsetse Fly Density in Some Selected of Pastoral Areas of South Omo Zone

Authors : Tekle Olbamo, Tegegn Tesfaye, Dikaso Unbushe, Belete Jorga

Abstract : Bovine trypanosomosis is a haemoprotozoan parasitic disease, mostly transmitted by the tsetse fly (Glossina species) and poses significant losses to the livestock industry in pastoral and agro-pastoral areas. Therefore, the current study was aimed to determine the prevalence of bovine trypanosomosis and its vectorial density in some selected tsetse suppression and non-tsetse suppression areas of South Omo Zonefrom December 2018- November 2019. Dark phase contrast buffy coat, hematocrit techniques, and thin blood smear method were used for determination of prevalence and packed cell volume of trypanosomosis infection, respectively. For entomological investigation, 96 NGU traps were deployed (64 traps in tsetse suppression areas, 32 traps in tsetse non-suppression areas) in vector breeding areas. The overall prevalence of bovine trypanosomosis was 11.05% (142/1284), and overall seasonal prevalence of disease was 14.33% (92/642) and 7.78% (50/642) for dry and wet seasons, respectively. There was a statistically significant difference ($P < 0.05$) in disease prevalence between the two seasons. Trypanosomacongolensewas the dominant parasite species; 80% and 71.64%, followed by Trypanosomavivax. Overall mean packed cell volume indicated parasitaemic animals (23.57±3.13) had significantly lower PCV than aparasitaemic animals (27.80±4.95), and animals examined during dry season (26.22±4.37) had lower mean PCV than animals examined during wet season with the significant association. Entomological study result revealed a total of 2.64 F/T/D and 2.03 F/T/D respectively from tsetse suppression areas and tsetse non-suppression areas during dry season and 0.42 F/T/D and 0.56 F/T/D during the wet season. Glossinapallidipes was the only cyclical vectors collected and identified from current study areas along with numerous mechanical vectors of genus Tabanus, Stomoxys, and Haematopota. Therefore integrated and safe control and prevention effort should be engaged to uphold cattle production and productivity in the area.

Keywords : bovine trypanosomiasis, South Omo, tsetse fly density, epidemiological study
Conference Title : ICLAD 2022 : International Conference on Livestock and Animal Diseases
Conference Location : Rome, Italy
Conference Dates : August 30-31, 2022