# Prevalence and Econonic Losses Due To Bovine Fasciolosis on Cattle Slaughtered at Bonga Municipal Abattoir, South-West Ethiopia

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#### Abstract

A longitudinal study was conducted from September to January 2021 to determine the prevalence and its economic losses due to bovine fasciolosis in cattle slaughtered at Bonga municipal abattoir, Kafa Zone, South-West Ethiopia. A total of 450 animals' livers were examined, from which 89 were found positive for liver fuke infection (fasciolosis) with an overall prevalence of 19.78%. The prevalence of fasciolosis has shown variations between animals originating from fve diferent districts namely Gesha, Saylem, Gimbo, Tello and Adiyo. Higher prevalence 25.20% (n=123) was found in animals originating from Gesha districts, than the other four districts that include 17.18% (n=64) Saylem districts 20.00% (n=110) from Gimbo districts, 12.96 % (n=54) 18.18(99) tello districts and the least 12.96 % (n=54) from Adiyo districts. There was statistically signifcant diference (p<0.05) in prevalence of fasciolosis between cattle originating from the fve diferent districts. Sex has statistically signifcant (p>0.05) infuence on the prevalence of fasciolosis. The prevalence of fasciolosis was analysed by body condition score and there was signifcantly (p<0.05) higher infection in animals with poor body condition than with good body condition. The study shows that prevalence of fasciolosis was 26.23% on adult and 15.35% on older cattle. There was statistically significant difference (p<0.05) in prevalence between the two age groups. Based on the prevalence of bovine fasciolosis in the current study, the direct fnancial loss resulted from livers condemned due to fasciolosis during the 150 days of study period was estimated at 71,200 ETB. The study has recommended that farmers should be made more aware of the fact that fasciolosis is a serious animal health problem in the study area with additional fnancial loss from condemnation of a fected livers. Appropriate methods of controlling fasciolosis should be adopted that include regular deworming of cattle with correct doses and regime; and the use of moliuscicides to kill snails in the breeding places where cattle graze.

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Received: 5-Jun-2022, Manuscript No: jvmh-22-63832, Editor assigned: 7-Jun-2022, PreQC No: jvmh-22-63832 (PQ), Reviewed: 21-Jun-2022, QC No: jvmh-22-63832, Revised: 24-Jun-2022, Manuscript No: jvmh-22-63832(R), Published: 1-Jul-2022, DOI: 10.4172/jvmh.100152

Citation: Abera M (2022) Prevalence and Econonic Losses Due To Bovine Fasciolosis on Cattle Slaughtered at Bonga Municipal Abattoir, South-West Ethiopia. J Vet Med Health 6: 152.

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production and drought power; increased costs of anthelmintics, drenches, lobar; losses due to condemned liver at slaughter, and

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on older cattle. ere was statistically signi cant di erence (p<0.05) in prevalence between the two age groups.

During the study period, 450 cattle were slaughtered at Bonga municipal abattoir, Ka a Zone, South-Western Ethiopia. Based on the 19.78% prevalence of bovine fasciolosis, and an average market price of a healthy liver at 800 ETB, the nancial loss from livers condemned due to fasciolosis during the study period was estimated at 71,200 ETB.

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e prevalence of bovine fasciolosis on cattle slaughtered at Bonga municipal abattoir, Ka a Zone, was 19.78%. e highest prevalence was 25.20% (n=123) noted in animals originated from Gesha districts, and the least 12.96% (n=54) in cattle from Adiyo. e origin of cattle in the ve districts has shown to signi cantly a ect (p<0.05) the prevalence of fasciolosis when slaughtered at the abattoir. Although cattle in this study were traced to the ve districts, the slaughter slab is a destination for cattle coming from some 11 districts in Bonga town.

Generally, the use of wetlands for grazing and watering of cattle during dry seasons is a common practice in the study area. is could explain the observed high prevalence of fasciolosis in cattle originating from some of the districts. is situation could be exacerbated by absence of proper cattle de-warming program and the movement of cattle by trading. Factors that favors occurrence of fasciolosis are moisture and temperature that allows persistent surface wetness on posture for the snail and free living stages of the parasite to strive. Grazing cattle in wet lands during dry season promote infestation of cattle with fasciolosis (Ekwenife and Eneanya [2]). In cattle, similarly high prevalence of 35% had been reported at Hawassa municipal abattoir in Ethiopia (Abebe et al. [3]), 32% at Arusha abattoir in Tanzania (Mwaabonimana et al. [8]) and 43.7% at slopes of Mount Elgon (Howell et al. [11]). However, the fasciolosis prevalence found in this study was found to be lower than what had been reported for most areas in Ethiopia. For example, a prevalence of 80% has been reported in Debre Berhan (Dagne, 1994 [12]) and Western Shoa. Also a prevalence of 50 - 63% has been reported in Ethiopia from Gonder (Bahiru and Ephrem [13]), around Lake-Tana. More generally, a prevalence ranging from 30 to 90% has been recorded for fasciolosis in tropical countries, the disease being considered as the single most important helminth infection of cattle Spithill et al. [14] . e current study also found that Bovine fasciolosis was more prevalent and more severe in poor body condition than good.

is may be due to the fact that animals with poor body condition are generally more susceptible. Based on a 19.78% prevalence of bovine fasciolosis in the current study, the nancial loss from livers condemned due to fasciolosis during the study period was estimated at 71200 ETB.

e nancial losses estimated could be much higher if all the direct and indirect losses associated with the disease, including that caused by weight loss, were included. A study done at Assela Municipal abattoir in Ethiopia by Mulugeta et al. [6] Found that losses associated with fasciolosis weight loss were 17.5 time more than losses caused by liver condemnation. e projections were based on the fact that fasciolosis causes 10% weight loss. Condemnation of a large quantity of liver due to fasciolosis reduces its market availability (supply) and increases its market price (Ibrironke and Fasine, [15]) thus making it una ordable by the vulnerable people who need it most. Liver tissue is a very rich source of nutrients including proteins, some important vitamins (A, D, E and K) and minerals. Liver is o en recommended for pregnant mothers, children and for prevention and treatment of anemia and de ciencies of mineral and vitamins (Ibironke and Fasina, [15]). Liver rejection at the abattoir tends to increase the level of aggregation by butchers who sometimes bear the complete nancial burden of such condemnation (Wamae et al. Ibironke and Fasina, [15-20]). Fasciolosis also has public health signi cance and it has been shown that fasciola uke can cause human fasciolosis (Molime [9]).

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Fasciolosis is a serious health problem of cattle which causes liver condemnation in the slaughter slab, and reduction in the production of the animals. In the current nding the slaughter slab prevalence of fasciolosis showed that the infection is common in most parts of the woreda as most of the animal were originated from the di erent districts. e parasite (*Fasciola*) mostly a ects animals which were originated from marshy areas. us, the infection is common in the region due to marshy grazing areas and di erent ponds which merits

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