



Intensity and economic impact of bovine dermatophilosis in some areas of the central African sub region

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Introduction

Bovine dermatophilosis caused by *Dermatophilus congolensis* occurs worldwide but is of particular importance in the warm humid tropics with high prevalence and associated economic losses (Chatikobo et al., 2004). In the Central African region, it is endemic with a herd prevalence of > 90% (Awa et al., 2004), and causes important losses in milk production (Bayemi et al, 2005). This study assessed its intensity, identified risk factors and estimated economic losses and the efficiency of treatment of the disease.

Materials and methods

Prevalence studies were done in south Tchad through a survey questionnaire and clinical examinations involving 9383 heads of cattle. In Cameroon, a 3 months longitudinal survey in the rainy season (April – June 2006) was done, to determine clinical incidence, assess treatment efficacy and estimate economic losses due to the disease. Clinical cases were treated with antibiotics and preventive measures consisted of tick control. Economic losses were estimated in terms of treatment cost and the financial value of production losses if the affected animals were not treated.

Results

Clinical prevalence was significantly higher at both herd and individual animal levels in sedentary than in transhumant herds ($p < 0.001$).in Tchad (Table 1)

Table 1. Clinical prevalence of bovine dermatophilosis in southern Tchad

Livestock system	Population at risk (N)	Individual animal prevalence (%)	Herd prevalence (%)
Sedentary	4460	1.79 ^a	100 ^a
Transhumant	4913	0.65 ^b	65 ^b
Total/mean	9383	1.19	82.5

^{ab} column values are significantly different ($p < 0.001$)

Clinical incidence in Wakwa within 3 month was 36.4% in the *Gudali* zebu. No case was recorded in the Namchi herd (*Bos taurus*).

Distribution of lesions on the animal's body is shown in Table 2. Prevalence was related to the age but not sex of the animals, with adults more affected than calves less than 1 year old.

Table 2. Distribution of dermatophilosis lesions according to different regions of the host body

Site	Prevalence by body part (% of affected animals)			
	Dorsum	Preputial & inguinal region	Limbs	Neck
Wakwa	82.3 ^a	49.4 ^b	32.9 ^c	n.a.
S. Tchad	42.4 ^a	17.2 ^b	9.1 ^c	21.1 ^b

^{abc} Row values with different superscripts are significantly different ($p < 0.01$)

n.a. values not available

Affected udders result in milk losses and calf mortality



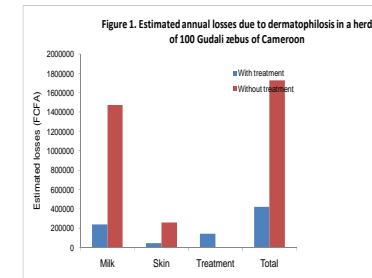
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Crusty dermatophylosis lesions on the back of a Gudali cow



Treatment efficacy and estimation of economic losses

Total cost of treatment scaled to a herd of 100 heads was 139 450 FCFA. Losses incurred with treatment amounted to 415 600 and 1 726 000 FCFA without treatment (Fig. 1) mainly due to loss in milk production.



Discussion and conclusion

Clinical dermatophylosis prevalence in the studied areas of Tchad at individual animal level averaging 1.8% was lower than 10-40% reported by Faibra (1989), suggesting improvement in treatment and prevention strategies. On the contrary, incidence in Wakwa seemed higher compared to prevalence of 27.8% recorded in 1988 (CZR Wakwa, 1988). Differences in prevalence between sedentary and transhumant herds could be explained by factors related to the different livestock systems. Sedentary herds have closer animal-to-animal contact favouring pathogen transmission. Intensive practices in sedentary herds favour pathogen concentration

Transhumant herd owners (traditional pastoralists) were more conscious and knowledgeable in animal health management than sedentary herd owners who keep animals as a secondary activity to cropping.

Breed effect to susceptibility to the disease was evident as no case was noted in the Namchi herd compared to 36.4% incidence in the Gudalis.

Treatment with antibiotics may seem expensive but this study showed that it is economically efficient and strongly recommended especially in a dairy production herd.

Références

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