Growth and Behaviour in Relation to Skin Lesion Surface 
Due to *Psoroptes* and *Trychophyton* in Belgian Blue Cattle

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**Abstract.** Skin lesions due to infection with the parasitic *Psoroptes* mite is a common problem in Belgian Blue Beef and causes substantial growth reduction. Skin lesions due to fungi such as *Trychophyton verrucosum* are considered to have little economic implications. We studied weekly growth over 11 weeks in 36 growing animals of both sexes. Twelve were infested with *Psoroptes* mites and developed lesions by week 11. 19 animals spontaneously obtained a *Trychophyton* infection. First skin lesions were observed in week four. Behaviour was scored daily from week 1 till week 6, and from week 10 till week 11. Animals without lesions, with lesions due to *Psoroptes* and with lesions due to *Trychophyton* did not show a significant difference in weight gain. There was however an effect of surface of lesions (of any kind) on the growth (p<0.02): larger lesions related to less growth. Lesion surface also related to reduced rumination quality. Animals with *Psoroptes* lesions showed more itching behaviours (licking, tail switching, scratching, rubbing) in relation to lesion surface from week 5 on. We confirm that are welfare implications and economic implications in animals with skin lesions due to *Psoroptes* or *Trychophyton*.

**Keywords:** *Psoroptes, Trychophyton*, Belgian Blue Cattle

**INTRODUCTION**

Skin lesions due to infection with the parasitic *Psoroptes* mite are a common problem in Belgian Blue Beef. In Flanders about 20% of the cattle farms have an infestation in more than 10% of the animals (Lonneux et al., 2000). In young animals with a minimal skin lesion surface of 4.3%, growth is 30 gram/day lower than in non-infested animals (Lonneux, 1996; Lonneux et al., 1998; Rehbein et al., 2003). Skin lesions due to fungi such as *Trychophyton verrucosum* are considered to have little economic implications. We studied weekly growth and the behaviour over 11 weeks in 36 growing Belgian Blue individuals of both sexes.

**MATERIALS AND METHODS**

We studied weekly growth over 11 weeks in 36 animals of both sexes, aged between 5 and 14 months. At study onset, all animals were free of lesions. Twelve were infested with *Psoroptes* mites; seven of these animals had developed lesions by week 11 due to *Psoroptes*. The allowed surface of skin lesion was a priori restricted out of welfare concerns. 19 animals spontaneously obtained a *Trychophyton* infection. *Psoroptes* and *Trychophyton* separately add up to superficially similar skin lesions that can be distinguished by close inspection and analysis of skin scraping samples. The first skin lesions were observed in week four. Behaviour was scored daily from week 1 till week 6, and from week 10 till week 11, by focal animal sampling (total= 240 hrs).
RESULTS AND DISCUSSION

The animals without lesions, with lesions due to *Psoroptes* and with lesions due to *Trychophyton* did not show a significant difference in weight gain (*p*=0,43). There was however an effect of surface of lesions (of any kind) on the growth (*p*<0,02). Larger lesions related to less growth. We also found a significantly lower rumination quality (bites per bolus) in relation to (any kind of) lesion surface. Numbers of total itching behaviours (licking, tail switching, scratching, rubbing) were positively correlated with surface of *Psoroptes* lesions from week 5 on, which was not so for itching in relation to *Trychophyton*. An increase in total itching behaviour was observed in week 4, at the onset of the first appearance of skin lesions.

CONCLUSIONS

We confirm that there might be welfare implications (i.e. rumination quality and itching) and economic implications (i.e. more lesions stand for less growth) in animals with skin lesions due to *Psoroptes* or *Trychophyton*.

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REFERENCES


