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Prevention and treatment of tail biting in weaned piglets

Johan J. Zonderland [a,*], Maaike Wolthuis-Fillerup [a], Cornelis G. van Reenen [a], Marc B.M. Bracke [a], Bas Kemp [b], Leo A. den Hartog [c], Hans A.M. Spoolder [a]

[a] *Animal Sciences Group of Wageningen UR, Division Animal Production, P.O. Box 65, 8200 AB Lelystad, The Netherlands*
[b] *Wageningen University, Department of Animal Sciences, Adaptation Physiology Group, P.O. Box 338, 6700 AH Wageningen, The Netherlands*
[c] *Wageningen University, Department of Animal Sciences, Animal Production Systems Group, P.O. Box 338, 6700 AH Wageningen, The Netherlands*

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Abstract

The aims of this study were to evaluate four preventive measures and two curative treatments of tail biting. The preventive measures were: chain, rubber hose, straw rack (5 g/pig/day) and the provision of straw on the floor twice daily by hand (2 × 10 g/pig/day). The two curative treatments, which were applied following the onset of tail biting in a pen were: straw twice daily (as in the fourth preventive measure) and the removal of the biter. In total, 960 undocked weaned piglets (10 piglets per pen) were observed during 5 weeks. Tail lesions (none, bite marks and wounds) were recorded daily. The incidence of pens with wounded pig tails was significantly lower when straw was provided twice daily (8% of pens) compared to the chain (58% of pens) and rubber hose (54% of pens) treatment, but did not differ significantly from the straw rack treatment (29% of pens). Tails with bite marks were significantly less common in pens with twice daily straw (16% of pens) compared to chain (88% of pens), rubber hose (79% of pens) and straw rack (75% of pens). No significant difference was found between the curative treatments. Both treatments showed a reduced incidence of red fresh blood on the tails at days 1–9 following curative treatment, compared to day 0. However, neither curative treatment eliminated tail biting entirely. In conclusion, this study indicates that tail biting is best prevented with a small amount of straw, provided twice daily, and to a lesser extent with a straw rack, compared to providing a chain or a rubber hose. Once tail biting has

* Corresponding author. Tel.: +31 320 293561; fax: +31 320 238022.
E-mail address: Johan.Zonderland@wur.nl (J.J. Zonderland).

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occurred, providing a small amount of straw twice daily and removing the biter appears to be equally effective.
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1. Introduction

In most countries the tails of young pigs are docked to prevent tail biting later in life (McGlone et al., 1990). Tail docking is not only painful for the animals, it also conceals the presence of a more chronic animal welfare problem, namely behavioural deprivation and boredom.

Several studies suggest that environmental enrichment, especially the provision of straw, reduces the chance of tail biting (Van Putten, 1969) and tail biting behaviour (e.g. Bøe, 1993; Petersen et al., 1995). However, most pig husbandry systems in Western Europe cannot be equipped with large amounts of straw, because this would block their slurry-based manure systems. Other enrichment devices were developed for these systems, such as the provision of iron chains, rubber hoses, car tyres and wooden beams. Such 'toys' may provide some occupation and reduce general penmate-directed behaviours (Sambraus and Kuchenhoff, 1992), but the degree depends on the provided materials. Van de Weerd et al. (2003) investigated 74 different enrichment objects during 5 days in order to find the characteristics that the favoured objects had in common. They found that the main characteristics for intense use were, among other things, ingestibility, chew ability and destructability. Zonderland et al. (2003) suggested that a combination of flexibility and destructability might be relevant material characteristics to attract the pigs' attention. This may help to reduce tail biting as tail biting has been suggested to be redirected exploration behaviour (Van Putten, 1980). However, research comparing the effects of different enrichment treatments on the prevention of tail biting is limited, mainly because tail biting outbreaks may be difficult to predict and hard to initiate (Van Putten, 1969; Ewbank, 1973). Therefore, research on tail biting prevention used mainly indirect parameters like tail in mouth behaviour (Schrøder-Petersen et al., 2004), epidemiological risk factor surveys (e.g. Moinard et al., 2003) or tail damage surveys in abattoirs (e.g. Hunter et al., 1999). Since tail biting was regularly observed among the weaned piglets at the Pig Research Unit of the Animal Sciences Group in Lelystad, the Unit offered a unique opportunity to study tail biting directly.

In addition to preventing tail biting, a need exists for more scientific information on curative treatments once tail biting has started, to limit the negative consequences of a tail biting outbreak. Several recommendations have been made once the first signs of tail biting are present, such as providing pigs with lots of straw, extra fresh air, an extra meal or to darken the room (Van Putten, 1968). Schrøder-Petersen and Simonsen (2001) suggested isolation of the tail biter, provided that such an individual can be identified. Arey (1991) advised coating of bitten tails in substances with an aversive taste such as wood tar, or isolation of the wounded animals when coating of the tail did not help. However, such recommendations have never been studied. Therefore, in this experiment the effects of two curative treatments (removing biter and twice daily straw provision), were tested in pens subjected to four different preventive measures against tail biting (suspended chain, suspended rubber hose, straw rack and twice daily straw provision). Regarding the straw treatments, it was tried to

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