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**Guidelines - on the risks of tail biting in pigs and avoidance of tail docking**



These guidelines have been produced in order to aid understanding and improve application of the legislative requirements for pigs as defined by Council Directive 2008/120/EC particularly the problems and solutions associated with tail biting in order that farmers can take appropriate corrective action and avoid the need for tail docking.

**Council Directive 2008/120/EC** defines the minimum standards of welfare for pigs.

**Paragraph 8 of Annex 1** forbids routine surgical interventions to be carried out on pigs.

*"...Neither tail-docking nor reduction of corner teeth must be carried out routinely but only where there is evidence that injuries to sows' teats or to other pigs' ears or tails have occurred. Before carrying out these procedures, other measures shall be taken to prevent tail-biting and other vices, taking into account environment and stocking densities. For this reason inadequate environmental conditions or management systems must be changed."*

TO BE INSERTED: Other relevant legislative provisions concerning appropriate living environment.

**Tail Biting ~ when the natural activity of rooting and manipulation is denied.**

Pigs that cannot engage in investigation and manipulation activity become frustrated and redirect their behaviour towards other objects in the pen.

This behaviour can be highly destructive.



Biting through pen wall



Chewing through water pipes

**Most importantly for pig welfare, frustrated pigs bite other pigs' tails.**

*“Tail biting is considered as an abnormal behaviour”, where “the need to perform exploration and foraging behaviour is considered to be a major underlying motivation” (EFSA, 2007b).*



Biting a docked tail



Biting a long tail

**Kommentar [DVS1]:** Eine Allgemeine Einführung in die Problemstellung mit dem klaren Hinweis, dass das Schwanzbeißen multifaktoriellen Ursachen entspringt. Dies geht auch deutlich aus der EFSA-Stellungnahme hervor (EFSA Journal (2007) 611, 1-13). Hier könnte eine Tabelle hilfreich sein, in der alle möglichen Faktoren aufgelistet sind, die im Nachgang im Detail beschrieben werden. Es muss weiter deutlich werden, dass die Ursachen einzelbetrieblich gelöst werden müssen und keine pauschalen Lösungsansätze zur Verfügung stehen. Dies gilt auch in Bezug auf der Gabe von Stroh und Strohhaltungssystemen (u.a. Statham et al., 2011, S. 100 – 108).

**Kommentar [MS2]:** Der Zusammenhang zwischen «Beschäftigungsmangel» und Schwanzbeißen ist wissenschaftlich nicht eindeutig erwiesen!

**Enrichment materials that stimulate the most exploratory behaviour are most likely to prevent tail biting**

The risk of tail biting is lowest when pigs have permanent access to straw and where concurrent bedding and objects are present. This highlights the strong relationship between the properties offered by enrichment materials, the expression of investigation and manipulation activity and the level of tail biting and, as EFSA (2007b) reports:

*“there is little evidence that provision of toys such as chains, chewing sticks and balls can reduce the risk of tail biting.”*



Three different types of enrichment  
Cloth, cardboard and straw



Foraging in silage



Lying in straw bedding

**Kommentar [DVS3]:** Keine Bezugnahme der Bilder zu den etablierten Haltungssystemen und dafür geeignete Lösungsansätze

**Kommentar [MS4]:** Konflikt von Einstreu und Silage mit Fleischhygienerecht (VO 1244/2007)

**Risk factors for tail biting - a stress-induced disorder**

As stated, *“tail-biting is a sign that something is wrong with the system.”*



Bitten tail



Severe tail lesion



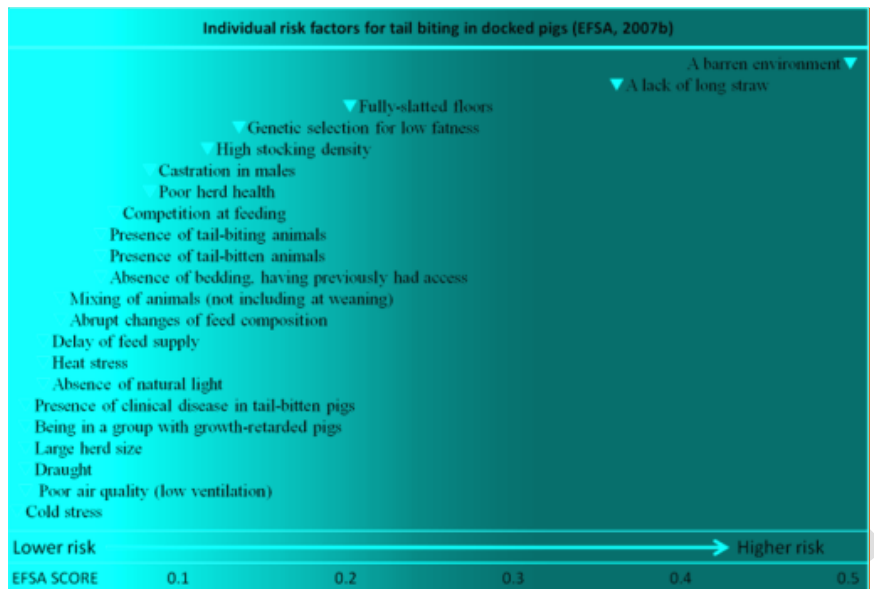
Fresh tail lesion

**Kommentar [DVS5]:** Ergänzung hier dass neben den Basic Mängeln (u.a. Tiergesundheit, Stallklima, Thermoregulation, Futterqualität, Management des Fütterungssystem, Mängel in der Wasserversorgung und –qualität), Ergänzung auch anderer möglicher Sekundärer- Einflüsse (u.a. Genetik, Aufzuchtbedingungen)

**Kommentar [LL6]:** Säugedauer als Einflussfaktor wird zwar oft genannt, ist aber nirgendwo belegt. Bitte rausnehmen. (Tölle)

Though a lack of opportunity to explore and forage is a primary motivation for tail biting, other negative environmental and management factors can increase pigs’ stress levels and the risk of tail biting occurring.

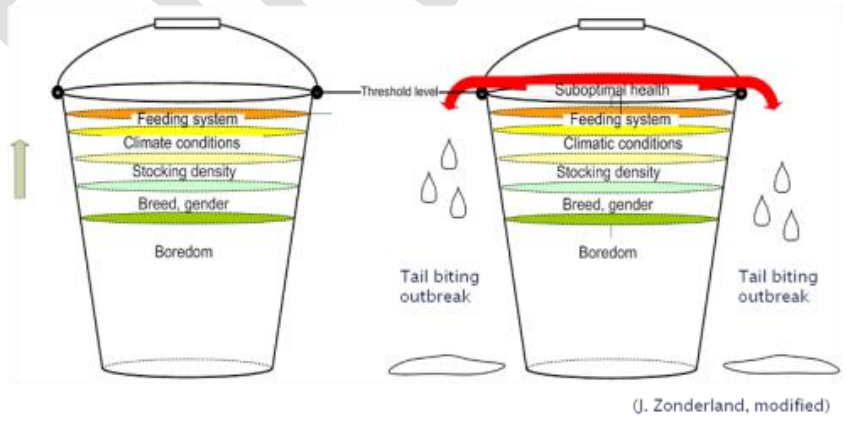
EFSA (2007b) have reviewed the scientific literature and the following diagram shows the level of risk for individual factors known to influence tail biting levels.



**Kommentar [DVS7]:** Qualität und Verständlichkeit der Abbildung – Ausrichtung für Praktiker nicht für Wissenschaftler

**Tail biting: a multi-factorial welfare problem.**

The previous diagram shows the individual risk levels for each factor. The presence of multiple risk factors however can have an additive effect on the overall level of risk. This highlights that whilst a lack of enrichment may be the biggest risk factor, the problem of tail biting is multi-factorial. Prior experience can also play a part. Tail biting is less likely to occur if, for example, straw was provided daily in the farrowing pen. The ‘overflowing bucket’ model (below) illustrates how an accumulation of risk factors can lead to tail biting.



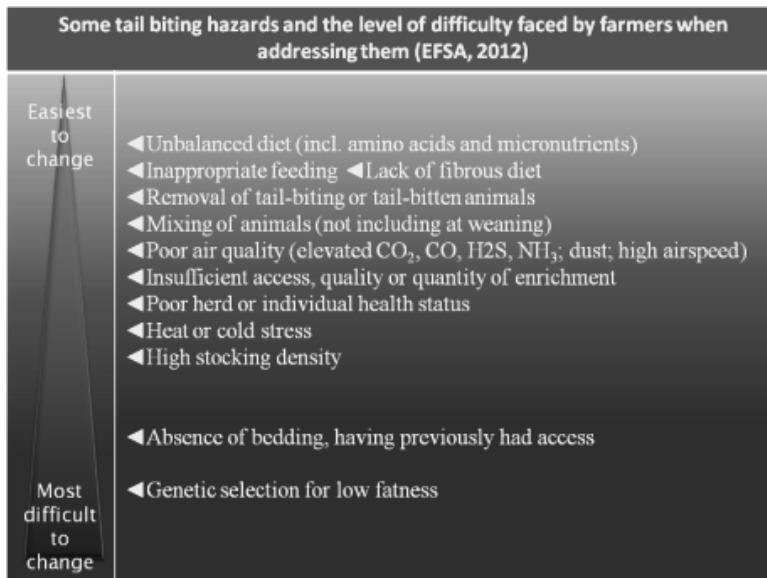
**Note** that the risk factor which acts as the trigger is not necessarily the risk factor which presents the greatest individual risk.

**Tail biting: controlling an outbreak**

So, given the multi-factorial nature of tail-biting risk, the provision of good enrichment material is an essential starting point but there are other factors involved in preventing an outbreak of tail biting.




**Kommentar [MS8]:** «Enrichment» hat in der EFSA-Übersicht nicht die höchste Priorität (1 Faktor von vielen!)

The following diagram shows the level of difficulty that farmers can face when addressing different risk factors (EFSA, 2012).



With proper guidance and regardless of system, farmers can be supported to make appropriate management changes to help reduce the risk of tail lesions.

When tail biting occurs, it can be minimised by suitable management of known risk factors. The term ‘severely tail-bitten pigs’ refers to score 2 of the Welfare Quality welfare assessment measures as shown below (Welfare Quality Protocol, 2009).

Score 0	Score 1	Score 2
		
No evidence of tail biting	Indication of superficial biting along the length of the tail, but no evidence of fresh blood or of any swelling (red areas on the tail are not considered as wounds unless associated with fresh blood)	Fresh blood is visible on the tail and/or there is evidence of some swelling and infection and/or part of the tail tissue is missing and a crust has formed



### **Tail biting: negative outcomes.**

An outbreak of tail biting affects both the pigs and the farmer.

#### **Pain**

Tail-biting outbreaks typically occur after a period of pre-injury tail chewing. Once a tail is bitten, the injured pig becomes more active from discomfort and pain. The increase in activity and the taste of blood may attract more biting and more pigs to bite tails.

A victim of tail biting suffers both pain and fear, particularly in small or barren pens where they are unable to escape from the attacks. Furthermore the pain from tail biting can be two-fold with pain from the tail injury and pain from any subsequent infections that enter the body.

#### **Reduced weight gain:**

To be inserted: isolation of tail-bitten or tail-biting pigs. Tail-bitten pigs can lose their appetite or eat less to avoid exposing their tail to further biting. Energy is used for fighting disease and not growth.

#### **Tail biting can lead to systemic infections that result in carcass condemnations:**

Tail lesions are associated with multiple abscesses throughout the body. Pigs with severely bitten tails have a higher prevalence of lung abscesses and pleuritic lesions. Carcasses of tail-bitten pigs (mild or severe) are more likely to be trimmed and condemned.

#### **The economic impact of tail biting has been calculated for farmers in the Netherlands.**

With a prevalence of tail biting at 2.1 % for finisher pigs, the cost per pig has been calculated at €9.26. For a finishing farm with 4,000 pigs the cost at farm level has been calculated at €2,425. The overall cost of tail biting to the Dutch pig industry is calculated to be € 8 million each year. This is an example giving an indication of what the cost may be.

#### **Job satisfaction**

Tail biting, as with all poor animal welfare, reduces job satisfaction. Managing healthy animals is more satisfying than treating sick animals. The importance of this should not be underestimated for a farmer's own well-being.



**Kommentar [DVS9]:** Abdruck von Bildern mit Schweinen in den unterschiedlichen Haltungssystemen

## Tail docking and the legal requirements

“Neither tail-docking nor reduction of corner teeth must be carried out routinely...”.

### Why was routine tail docking banned under European legislation?

Immediate pain will occur since, even in day-old piglets, peripheral nerves are present to the very tip of the tail. Prolonged pain will occur since docking the tail causes an uneven distribution of nerve endings which can develop into painful traumatic neuromas, making the tail highly sensitive.

Some European countries, such as Finland, Sweden, Norway and Switzerland, have focused more strongly on these sentiments and have banned all tail docking of pigs. For pigs with undocked tails, the pigs' behavioural needs must play a more prominent role in a farmer's choice of management practice in order to minimise tail biting.

The importance of enriched environments is illustrated by a study from Switzerland showing that tail biting in undocked pigs can be reduced to similar levels for docked pigs when the environment is suitably enriched as to allow for proper investigation and manipulation.

Tail length	Housing	Tail biting prevalence (where the tip or more of the tail was missing)
Long tail	Indoor with slatted floors	21.9 %
Long tail	Indoor with straw bedding and an outdoor yard	2.8 %

Indeed, the relationship between tail biting and environmental enrichment is so strong (alongside proper management of other risk factors), that the Scientific Technical Report (2011) commissioned by EFSA states that,

“an intact curly tail may well be the single most important animal-based welfare indicator for weaned, growing and finishing pigs...”

standing for

“high quality management and respect for the integrity of the pig”.

Not least of all, society has become increasingly aware of the moral issues related to the welfare of farmed animals.

### Management changes: complying with the legislation

Once an on-farm welfare assessment has been made, the following information is a guide to the subsequent process which will help ensure that all farmers become and remain compliant with the legislation.

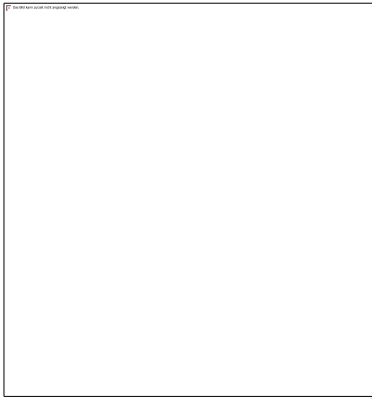
**Kommentar [DVS10]:** Berücksichtigung der Ergebnisse der vorhandenen Studien nicht nur die Konzentration auf nur eine Studie – Objektivität!

**Kommentar [MS11]:** Auch in der Schweiz ist das «enrichment» nicht der einzige Einflussfaktor!

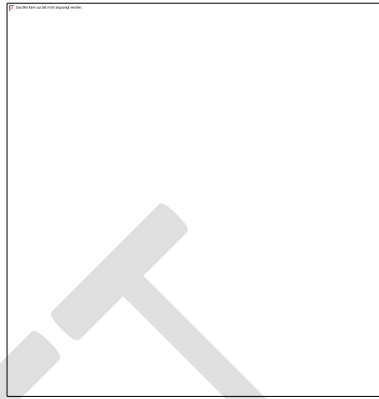
**Kommentar [MS12]:** High quality management erfordert viele Faktoren, nicht nur «enrichment»!!

**Routine tail docking is not permitted.**

Tail docking may only be carried out if there is evidence of tail lesions and only after all known risk factors have been addressed.



Intact, curly tail with no lesions



Docked tail

When an outbreak of tail biting occurs, suitable management changes need to be made, in accordance with known risk factors, to reduce and stop tail biting behaviour.



Chewing wood



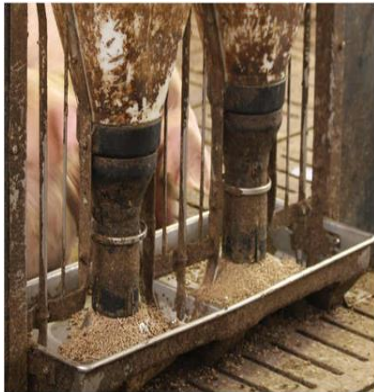
Clean and fresh bedding

**Kommentar [MS13]:** «Clean and fresh bedding» kann nicht generell gewährleistet werden  
Bei schwankender Qualität der Materialien  
(Risikofaktor: Lebensmittelhygiene)

To be inserted: recordkeeping and list of management procedures to be avoided.



If initial management changes are not successful in reducing tail biting, then further suitable changes must be made.



Feeding systems / Competition for feed



Automatically controlled & natural ventilation



Control of body temperature

**Kommentar [DVS14]:** Bilderqualität ist nicht tragbar und spiegelt auch nicht die Haltungssysteme wider

**Kommentar [DVS15]:** Vor dem Hintergrund vielfältiger Einflussfaktoren, die stark durch das einzelbetriebliche Management geprägt sind, erscheinen nur bestandsbespezifische Problemanalysen und Lösungsansätze erfolgsversprechend. Dieser Aspekt muss deutlich aus dem Dokument herausgearbeitet werden. Eine reine Reduktion auf Beschäftigungsmaterial sowie den Einsatz von Stroh bzw. Strohhaltungssystemen ist nicht hilfreich. Des Weiteren ist die Umstellung von Systemen nur langfristig möglich. Allerdings nur dann sinnvoll, wenn eine ganzheitliche Betrachtung erfolgte.

This process of making suitable management changes must continue until tail biting behaviour stops.

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When tail biting has stopped, then batches of undocked tails should be trialled - with a view to completely stopping the docking of tails.

Local veterinarians may have provided the farmer with permission to tail dock but this must only be a short-term solution to tail biting issues.

This does not remove a farmer's responsibility to make appropriate management changes with an aim to stopping tail docking and thus comply with the legislation.

To be inserted: n step plan for management measures necessary to address issue of tail-biting

#### **Literaturverzeichnis in Bezug auf die Anmerkungen und Ergänzungen**

##### **EFSA (2007)**

The risks associated with tail biting in pigs and possible means to reduce the need for tail docking considering the different housing and husbandry systems. In: The EFSA Journal (2007) 611, 1 - 13

##### **Statham, P., L. Green and M. Mendl (2011)**

A longitudinal study of the effects of providing straw at different stages of life on tail-biting and other behavior in commercially housed pigs. In: Applied Animal Behaviour Science 134 (2011), p. 100 – 108

**Kommentar [DVS16]:** Vor dem Hintergrund vielfältiger Einflussfaktoren, die stark durch das einzelbetriebliche Management geprägt sind, erscheinen nur bestandsbespezifische Problemanalysen und Lösungsansätze erfolgsversprechend. Dieser Aspekt muss deutliche aus dem Dokument herausgearbeitet werden. Eine reine Reduktion auf Beschäftigungsmaterial sowie den Einsatz von Stroh bzw. Strohhaltungssystemen ist nicht hilfreich. Des Weiteren ist die Umstellung von Systemen nur langfristig möglich. Allerdings nur dann sinnvoll, wenn eine ganzheitliche Betrachtung erfolgte.

**Kommentar [DKT17]:** Zwei Aspekte müssen hier Berücksichtigung finden. Zum einen die Lebensmittelsicherheit (insbesondere in Anbetracht der Bilder). Wie passen organische Materialien zusammen mit dem europäischen Ziel zukünftig in Richtung einer Risikoorientierten/visuellen Fleischschau zu gehen.

**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Schriftart: Fett, Deutsch (Deutschland)

**Formatiert:** Abstand Vor: 0 Pt., Nach: 0 Pt.

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