

ISAE 2019

Bergen, Norway

5th-9th August, 2019

Proceedings of the
53rd Congress of the ISAE

ANIMAL LIVES WORTH LIVING

edited by:

Ruth C. Newberry

Bjarne O. Braastad



Wageningen Academic
Publishers

ISAE 2019

Proceedings of the 53rd Congress of the ISAE

5th–9th August, 2019
Bergen, Norway

ANIMAL LIVES WORTH LIVING

edited by:

Ruth C. Newberry
Bjarne O. Braastad



Buy a print copy of this book at:

www.WageningenAcademic.com/ISAE2019

EAN: 9789086863389
e-EAN: 9789086868896
ISBN: 978-90-8686-338-9
e-ISBN: 978-90-8686-889-6
DOI: 10.3920/978-90-8686-889-6

First published, 2019

© **Wageningen Academic Publishers**
The Netherlands, 2019



Wageningen Academic
P u b l i s h e r s

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned. Nothing from this publication may be translated, reproduced, stored in a computerised system or published in any form or in any manner, including electronic, mechanical, reprographic or photographic, without prior written permission from the publisher:

Wageningen Academic Publishers
P.O. Box 220

6700 AE Wageningen
The Netherlands

www.WageningenAcademic.com
copyright@WageningenAcademic.com

The individual contributions in this publication and any liabilities arising from them remain the responsibility of the authors.

The publisher is not responsible for possible damages, which could be a result of content derived from this publication.

Trends in early life conditions of pigs and laying hens in order to prevent damaging behaviour: a GroupHouseNet update

Elske N. De Haas^{1,2}, Irene Camerlink¹, Sandra Edwards¹, Armelle Prunier¹, Xavier Averos¹, Johannes Baumgartner¹, Boris Bilcik¹, Nadya Bozakova¹, Anja Brich Riber¹, Ivan Dimitrov¹, Inma Estevez¹, Valentina Ferrante¹, Lubor Kostal¹, Ragnar Leming¹, Martina Lichovnikova¹, Dimitar Nakov¹, Sezen Ozkan¹, Evangelia Sossidou¹, T. Bas Rodenburg^{1,2} and Andrew M. Janczak¹

¹COST Action CA15134 GroupHouseNet, Horizon 2020 Framework Programme, Brussels, Belgium, ²Utrecht University, Domplein 29, Utrecht, the Netherlands; andrew.janczak@nmbu.no

Damaging behaviours in pigs and laying hens are among the most concerning current welfare issues. They are multifactorial in origin and difficult to stop once occurring. Prevention is crucial, and this is the focus of the COST Action project 'GroupHouseNet'. In laying hens, feather pecking (FP) can best be prevented at the hatchery. The parental stock's predisposition for FP can be assessed by epigenetic analysis, allowing careful stock selection. The fertilized eggs are then conventionally incubated in the dark, but studies show that light provision may reduce FP. Recent development of in-ovo sexing reduces chick handling, thus reducing stress. It further allows hatching with food and water provision, enabling on-farm hatching. Accessing feed right after hatching can be crucial for chicks to learn what to peck and eat. Artificial dark brooders, mimicking the mother hen's wings, reduce fear, stress and FP. Matching the rearing and laying system through an all-in-all-out system reduces stress by eliminating catching, handling, transport and changing environment. In practice, multiple all-in-all-out barns can provide continuous egg output. A sustainable and circular system of feeding chickens insects grown using chicken manure seems feasible and positive in preventing FP. The use of pasture and supplementing hens whole grains are also being researched as potential strategies. Together, these trends can help in preventing damaging FP in laying hens. For pigs, early life factors can also influence later damaging behaviour, such as aggression, tail and ear biting. Aggressive biting is mainly reduced by socialisation (i.e. co-mingling) before weaning. Here, piglets learn to establish dominance relationships early in life which reduces fight duration when older. Tail biting, which is largely unrelated to aggression, is increased by early life undernutrition, social stress due to competition and cross-fostering. These factors are all influenced by litter size at birth. Familiar odours may contribute to reducing biting when pigs are moved from one environment to another by alleviating the level of stress associated with novelty. Tail and ear injuries pre-weaning may also occur due to mycotoxins from feed or straw, and can result in the affected piglet being bitten and the development of biters. Paying attention to tail and ear injuries pre-weaning is therefore recommended. Even though the barren environment of the pigs represents the major risk for expression of damaging behaviour, the pre-weaning environment should be optimized to reduce the likelihood of this problem. Foraging possibilities are essential for both laying hens and pigs. Providing pigs and poultry with the requirements for expressing natural behaviour and for reducing stress is therefore necessary to prevent damaging behaviour.