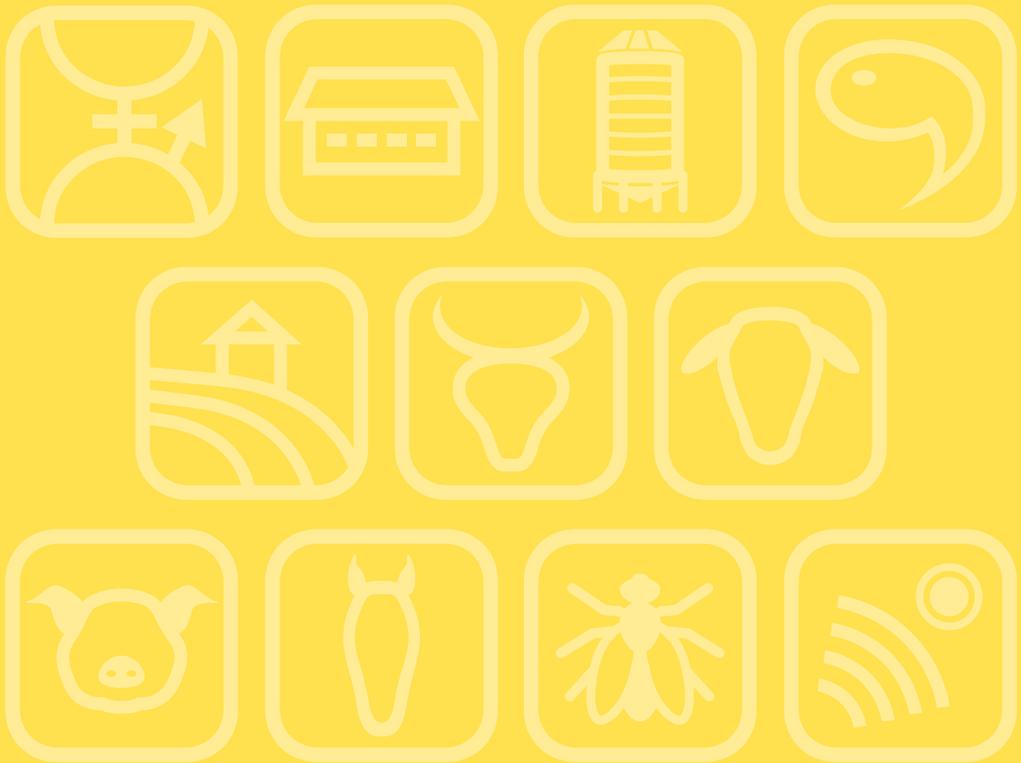


# Book of Abstracts of the 72<sup>nd</sup> Annual Meeting of the European Federation of Animal Science



**Book of abstracts No. 27 (2021)**  
**Davos, Switzerland**  
**30 August – 3 September 2021**

**EAN: 9789086863662**  
**e-EAN: 9789086869183**  
**ISBN: 978-90-8686-366-2**  
**e-ISBN: 978-90-8686-918-3**  
**DOI: 10.3920/978-90-8686-918-3**

**ISSN 1382-6077**

**First published, 2021**

**© Wageningen Academic Publishers  
The Netherlands, 2021**



**Wageningen Academic  
Publishers**

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](http://www.WageningenAcademic.com)  
[copyright@WageningenAcademic.com](mailto:copyright@WageningenAcademic.com)

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

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the European Federation of Animal Science concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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

**Welfare assessment in veal calves fattened in ‘outdoor veal calf’ versus conventional operations**

L. Moser<sup>1</sup>, J. Becker<sup>1</sup>, G. Schüpbach-Regula<sup>2</sup>, S. Kiener<sup>1</sup>, S. Grieder<sup>3</sup>, N. Keil<sup>4</sup>, E. Hillmann<sup>3</sup>, A. Steiner<sup>1</sup> and M. Meylan<sup>1</sup>

<sup>1</sup>University of Bern, Clinic for Ruminants, Vetsuisse-Faculty, Bremgartenstrasse 109a, 3012 Bern, Switzerland, <sup>2</sup>University of Bern, Veterinary Public Health Institute, Schwarzenburgstrasse 161, 3097 Liebefeld, Switzerland, <sup>3</sup>ETH Zurich, Department of Environmental Systems Science, Universitätsstrasse 2, 8092 Zurich, Switzerland, <sup>4</sup>Federal Food Safety and Veterinary Office, Agroscope, Tänikon, 8356 Ettenhausen, Switzerland; [jens.becker@vetsuisse.unibe.ch](mailto:jens.becker@vetsuisse.unibe.ch)

The ‘outdoor veal calf’ system was developed to encounter the demand for a veal fattening system that allows for reducing antimicrobial use without impairing animal welfare. Management improvements including direct purchase, short transportation, vaccination, quarantine in individual hutches during three weeks, and open-air housing in small groups in a roofed, straw-bedded paddock with a group hutch were implemented in a prospective intervention study (1,905 calves, 19 intervention and 19 control farms, one year): antimicrobial use was five times lower in ‘outdoor veal’ farms compared to control farms ( $P < 0.001$ ), but it was crucial to ensure that antimicrobial treatment reduction was not associated with decreased animal welfare, i.e. that sick animals were not left untreated. Welfare was assessed monthly on the farms and organs of 339 calves were examined after slaughter. Cough and nasal discharge were observed significantly ( $P \leq 0.05$ ) less often in ‘outdoor veal calf’ than in control farms, mortality (3.1 vs 6.3%,  $P = 0.020$ ) and lung lesion prevalence (26 vs 46%,  $P < 0.001$ ) were lower; no group difference was seen in abomasal lesion prevalence (65 vs 72%). Thus, beside reduced antimicrobial use, calf health and welfare were improved in ‘outdoor veal calf’ farms in comparison to traditional operations.

**A model for economic impact of animal welfare improvements at slaughter of cattle and pig**

J. Jerlström

SLU, Department of Animal Environment and Health, P.O. Box 234, 532 23 Skara, Sweden; [josefine.jerlstrom@slu.se](mailto:josefine.jerlstrom@slu.se)

Stress in animals prior to slaughter affects animal welfare as well as meat and carcass qualities, and may generate direct costs for the slaughterhouse business and the meat process industry due to reduced meat quality and condemnation of meat. Suboptimal design of slaughterhouse interior layouts and fittings acts to reduce animal welfare, but also leads to suboptimal workflow, impaired flow of animals through the slaughter process and thus reduced production efficiency for the slaughterhouse operator. In order to stay competitive, food business operators such as slaughterhouses need to optimise their economic returns. A literature review on the economic effects of animal welfare aspects at slaughter was performed, however only few studies previously published in this area were found. The overall aim of this study was to map the possible economic impact of improved animal welfare at slaughter at slaughterhouse business level. The specific aims were first, to develop an economic model, second, to map the impact of animal welfare improving practices based on scientific literature and third, to verify and adjust the economic model based on focus groups interviews. The results of our study can be used to support and improve the understanding of the economic aspects of animal welfare at slaughter and furthermore, enable informed decisions by policy makers.