Curriculum Vitae for Steen Henrik Møller

Born 24. June 1958 in Copenhagen, Denmark
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Position Senior Researcher (Associate Professor) at the Dept. of Animal and Veterinary Science, Faculty of Technical Sciences, Aarhus University, Denmark.

Education and selected courses

1999: Ph.D. degree in "Production management" from The Royal Veterinary and Agricultural University, Copenhagen, Dissertation: 'Management of mink production'.
1999: Ph.D. course: "Assessing Farm Animal Welfare" 2 ECTS point, Faculty of Veterinary Medicine, University of Helsinki, 26-28 April.
1998: Ph.D. course: "Software Construction in Java for Agricultural Applications" 6 ECTS point, Dina Research School, Tune Landboskole, 17-28 August.
1997: Ph.D. course: "Applied Statistics, Applied linear regression" 21 ECTS point, KVL, Inst. For matematik og Fysik.
1996: Ph.D. seminar "Parental Behaviour in Animals" 3 ECTS point. 6th Crane Seminar. 11-15 april, Skara. Sverige.
1996: Ph.D. course: "Planning and Control of Animal Production at Farm Level" 6 ECTS point, Nordic Post-Graduate course, Tune Landboskole August 25 to September 6.
1995: Ph.D. course: Nordic Post-Graduate Course: "Analytical Epidemiology and Animal Science" 6 ECTS point, 12-21 juni, Uppsala, Sverige.
1994: Ph.D. course: "Applied Statistics - Generaliserede modeller" 9 ECTS point, ABI, Forskningscenter Foulum.
1994: Ph.D. course: "The Biological Clock - Seasonal and Diurnal Rhythms in Animals" Nordic Post-Graduate Course, 3 ECTS point, 10-17. September Skotland.
1985: Cand. agro. in animal science from The Royal Veterinary and Agricultural University, Copenhagen. Project title: 'Dietary fiber in mink feed'

Occupation

2021 Senior Researcher (Associate Professor focusing on science rather than teaching) at the Dept. of Animal and Veterinary Science, Faculty of Technical Sciences, Aarhus University.
2011 Senior Researcher (Associate Professor focusing on science rather than teaching) at the Dept. of Animal Science, Faculty of Science and Technology, Aarhus University.
2007 Senior Researcher at the Dept. of Animal Health, Welfare and Nutrition, Faculty of Agricultural Sciences, Aarhus University.
2005 Senior Scientist at the Danish Institute of Agricultural Sciences, Dept. of Animal Health, Welfare and Nutrition.
1999 Senior Scientist at the Danish Institute of Agricultural Sciences, Dept. of Animal Health and Welfare.
1995 Scientific assistant at the Danish Institute of Agricultural Sciences, Dept. of Animal Health and Welfare.
1993 Scientific assistant at 'Statens Husdyrbrugsforsøg', Dept. of Smal Farm Animals.
1985 Scientific assistant at 'Statens Husdyrbrugsforsøg', Dept. of Fur Animals.

Profile

RESEARCH

Research in the effects of housing systems and management on health, welfare and production of mink (*Neovison Vison*). Methods for assessment of the impact of production factors, on the health and welfare status of mink, is developed, tested and applied in management procedures on private farms. Management tools are developed in order to support the tactical and operational management of the mink farmer. Planning and control of the mink farm is supported by aggregation of scientific evidence and practical experience, into systematic operation programmes and management solutions for different production periods. At the tactical level, the use of on-farm experiments and of aggregated farm production data is investigated, in order to develop farm specific information on the need for adjustments in management.

Since 2010, the main focus has been on aggregating the scientific knowledge into a valid, reliable and feasible on-farm welfare assessment protocol for mink. The resulting WelFur Mink protocol has been developed

according to the Welfare Quality ® principles but with three seasonal visits to assess welfare in the significant parts of the annual production cycle. WelFur has been implementated on approx. 2500 mink farms in Europe since 2017. The welfare assessment is carried out by independent auditors from a private, independent certification company, trained by WelFur researchers from the AU. WelFur Mink assessment results from the three first years of implementation was analysed and published in 2022, based on more than 6.000 on-farm assessments at 2104 mink farms from 23 European countries.

TEACHING AND DESSIMINATION

Teaching at graduate courses at Aarhus University and University of Copenhagen. Supervisor of 2 PhD, 2 master, and a number of bachelor students in biology, veterinary and life sciences. Co-organiser of the IFASA congress every 4 years and the annual mink meeting at Foulum for 25 years.

SCIENCE BASED CONSULTANCY

This includes written reports in relation to questions/tasks given by the national parliament of Denmark, EU, and comments to drafts of legislation for the keeping of mink. Appointed Danish expert member of the European Union Reference Centre for Animal Welfare For Poultry and other small farmed animals 2020 - . And for Fødevarestyrelsens "Arbejdsgruppe til udarbejdelse af initiativer til øget kontrol af dyresundhed og dyrevelfærd hos pelsdyravlere" 2009 – 2010. Appointed expert member in the Norwegian 'Matdepartementets Utvalg for gennemgang av pelsdyrnæringen i Norge' og medforfatter til Norges Offentlige Utredninger 2014:15 "Norsk pelsdyrhold – bærekraftig utvikling eller styrt avvikling? — Gjennomgang av pelsdyrnæringen". Invited expert in 2011 meeting and commenting on the Canadian "Code of Practice for the Care and Handling of Farmed Mink". Invited expert in 2014 meeting and commenting on the Cinese "Technical Regulations on the Raising, Breeding, and Utilization of Mink, Fox and Raccoon Dog".

Major research projects:

2010-2024	Leader of the projects:"***WelFur – Mink I, II, III, IV and V"*** Development of an on-farm welfare assessment system for mink – using the principals developed in Welfare Quality ®.
2008-2011	Leader of the project:"***Mink – Slanke avlsdyr med god reproduction og velfærd"*** (Mink – Slim breeders with good reproduction and welfare) under the Danish innovation act.
2004-2007	Leader of the project:***"Pelsdyr – Individuel fordring af mink året rundt – Farmpilot"*** (Fur animals- Individual feeding of mink all year around – using a PalmPilot) under the Danish innovation act.
2002-2006	Leader of the project:***"Store mink – store udfordringer. Produktion af højtydende mink uden uønskede følgevirkninger"*** (Large mink – large challenges –Production of high yielding mink without negative consequences) under the research programme 'Tværfaglig husdyrforskning' (Multidiciplinary farm animal research).
2003-2006	Leader of the project:"Development of knowledge and tools for the prevention of health and welfare problems in mink production" under CEPROS II.

Other

2013 -	Coordinator of fur animal research at Aarhus University.
2008 -	President of IFASA (International Fur Animal Scientific Association).

PhD thesis

Møller, S.H. 1999. Management of Mink Production. The Royal Veterinary and Agricultural University. Inst. of Animal Production and Health & Danish Institute of Animal science, Inst. of Animal Health and Welfare. pp. 172.

Presentations at scientific conferences

More than 100 presentations at national and international meetings and conferences within animal welfare, production and management in mink, including two key-note talks at international scientific conferences

Presentations and reports in Danish

More than 100 including 15 science-based consultancy papers to governmental bodies regarding the keeping of mink in Denmark and 20 science-based consultancy papers to governmental bodies regarding and environmental effect of mink production in Denmark.

Scientific Assessment

(1) Referee for the scientific journals: **(a) Applied Animal Behaviour Science, (b) Animal Welfare (c) Animal, (d) Animals, (e) Canadian Journal of Animal Science, (f) Behavoiural Proceses, (g) Acta Veterinaria Scandinavica, and (h) Animal Reproduction Science. 2009 – still.**
(2) Member of the evaluation board of 3 PhD theses:
(a) Jespersen A. 'Wounds in Farmed Mink' University of Copenhagen, Denmark, 2016. (b) Melsted Birch, J. 'Diarrhea in mink kits during the pre-weaning period' University of Copenhagen, Denmark, 2018. (c) Karin Mundbjerg- 'Development of new tools for veterinary practice in relation to cystitis and urolitiasis in mink' University of Copenhagen, Denmark, 2021.

Peer-reviewed publications

An updated CV and list of publications, activities etc. can be found at:
http://pure.au.dk/portal/da/persons/steen-henrik-moeller(a76a2e86-c4b8-4a28-b835-e93cb9042c81)/publications.html

Henriksen, B. I. F., Møller, S. H., & Malmkvist, J. (2022). Animal welfare measured at mink farms in Europe. Appl. Anim. Behav. Sci. 248, 105587. https://doi.org/10.1016/j.applanim.2022.105587

Henriksen, B. I. F., Møller, S. H. & Malmkvist, J., dec. 2020, Test of temperament in mink is influenced by a shelf in the front of the cage and the stimulus size rather than by features of the test person. I: Applied Animal Behaviour Science. 233, 105155.

Madsen, Mette Dam., Villumsen, TR, Hansen, BK. Møller, Steen Henrik; Jensen, Just; Shirali, Mahmoud. 2020. Combined analysis of group recorded feed intake and individually recorded body weight and litter size in mink. Animal. DOI: 10.1017/S1751731120000762

Marsbøll, AF, Henriksen, BIF, & **Møller, SH. 2019**. The representativeness of a semi-random sampling method for animal welfare assessments on mink farms. Animal Welfare, 28 (3):307-315. DOI: 10.7120/09627286.28.3.307

Marsbøll, AF, Henriksen, BIF, Hansen, B.K. & **Møller, SH. 2019**. Changes in the welfare of mink (Neovison vison) with date of assessment in the winter and growth periods have limited effects on the overall WelFur categorisation. Animal Welfare, 28 (3):365-380. DOI: 10.7120/09627286.28.3.365

Henriksen, B.I.F., Sørensen, J.T., & Møller, S.H. 2016. Classification of animal welfare on mink farms differs between three annual production periods. Animal Welfare, 25, 265-273. DOI: 10.7120/09627286.25.2.65

Henriksen, B.I.F., Anneberg, I., Sørensen, J.T. & Møller, S. 2015. Farmers' perception of Stable schools as a tool to improve management for the benefit of mink welfare. Livestock Science 181, 11, 7-16. DOI: 10.1016/j.livsci.2015.09.019

Shirali, Mahmoud; Nielsen, Vivi Hunnicke; Møller, Steen Henrik; Jensen, Just. 2015. Longitudinal analysis of residual feed intake and BW in mink using random regression with heterogeneous residual variance. Animal, Vol. 8, 08.06.2015, s. 1-8. DOI: 10.1017/S1751731115000956

Henriksen BIF, Møller SH. 2015. The reliability of welfare assessment according to the WelFur-protocol in the nursing period of mink (Neovison vison) is challenged by increasing welfare problems prior to weaning. Animal Welfare. 24:193-201. DOI: 10.7120/09627286.24.2.193

Meagher RK, Ahloy Dallaire J, Campbell DLM, Ross M, Møller SH, Hansen SW, Díez-León M, Palme R, Mason GJ. 2014. Benefits of a Ball and Chain: Simple Environmental Enrichments Improve Welfare and Reproductive Success in Farmed American Mink (Neovison vison). PloS one. 9(11):e110589. DOI: 10.1371/journal.pone.0110589

Hansen SW, Møller SH, Damgaard BM. 2014. Bite marks in mink—Induced experimentally and as reflection of aggressive encounters between mink. Applied Animal Behaviour Science. 158:76-85. DOI: 10.1016/j.applanim.2014.06.008

Alemu SW, Bijma P, Møller SH, Janss L, Berg P. 2014. Indirect genetic effects contribute substantially to heritable variation in aggression-related traits in group-housed mink (Neovison vison). Genetics Selection Evolution. 46(30). DOI: 10.1186/1297-9686-46-30

Nielsen VH, Møller SH, Hansen BK, Berg P. 2012. Genetic parameters and effect of selection for body weight in lines of mink (Neovion vison) on ad libitum and restricted feeding. Acta Agriculturae Scandinavica. Section A. Animal Science. 62(1):24-28.

Mononen, J., Møller, S. H., Hansen S. W., Hovland A. L., Koistinen, T., Lidfors, L., Malmkvist, J., Vinke, C. and Ahola, L., 2012. The development of on-farm welfare assessment protocols for foxes and mink: the WelFur project. Animal Welfare 21: 363-371.

Hansen, SW; Møller, SH; Damgaard, BM. 2011. Feed restriction and tubes for environmental enrichment in growing mink-Consequences for behaviour and welfare. I: Applied Animal Behaviour Science, Vol. 134, Nr. 3-4, 11. s. 193-200.

Nielsen, VH; Møller, SH; Hansen, B K; Berg, P. 2011. Response to selection and genotype-environment interaction in mink (Neovison vison) selected on ad libitum and restricted feeding. I: Canadian Journal of Animal Science, Vol. 91, Nr. 2, s. 1-7.

Hansen, SW & Møller, SH 2008, Diurnal activity patterns of farm mink (Mustela vison) subjected to different feeding routines, Applied Animal Behaviour Science, vol. 111, s. 146-157.

Møller, S.H. 2008. Management of mink production in the light of sustainability. Scientifur reviewed articles, Vol. 32, No. 4, 238-248.

Sørensen, JT, Nielsen, TR, Møller, SH, Bonde, M & Hegelund, L 2007, On-farm welfare assessment systems: what are the recording costs? Animal Welfare, vol. 16, nr. 2, s. 237-239.

Damgaard, B.M., Hansen, S.W., Børsting, C.F. & Møller, S.H., 2004. Effects of different feeding strategies during the winter period on behaviour and performance in mink females (Mustela vison). Applied Animal Behaviour Science 89, 163-180.

Møller, S.H. & Sørensen, J.T., 2004. Management problems and tools for strictly synchronised animal production systems exemplified by mink production. Scientifur reviewed articles 27(4), 85-96.

Møller, S.H., Hansen, S.W. & Sørensen, J.T., 2003. Assessing animal welfare in a strictly synchronous production system: The mink case. Anim. Welfare 12, 699-703.

Hansen, S.W. & Møller, S.H., 2001. The application of a temperament test to on-farm selection of mink. Acta Agric. Scand., Sect. A, Animal Sci. Suppl. 30, 93-98.

Sørensen, J.T., Bonde, M., Møller, S.H. & Rousing, T., 2001. A concept for assessing animal welfare at farm level as a tool for management aid for the farmer. Animal Husbandry, Scientific Articles, 38 Appendix, 81-86.

Møller, S.H., 2000. A decision support tool for litter size management in mink, based on a regional farm production database. Scientifur reviewed articles 24 (3), 183-191.

Møller, S.H., 1999. Effects of Weight Development, Pelting Time, Colour type and Farm on Skin Length in Mink. Acta Agric. Scand., Sect. A, Animal Sci. 49, 121-126.

Rattenborg, E., Dietz, H.H., Andersen, Ths. H. & Møller, S.H., 1999. Mortality in farmed mink: systematic collection versus arbitrary submissions for diagnostic investigation. Acta vet. scand. 40, 307-314.

Invited conference lectures:

Møller, S.H. 2004. Management of health in mink A HACCP plan for energy allowance during winter and gestation in order to control sticky kits. Proceedings of the VIIIth International Scientific Congress in Fur Animal Production, September 15-18, 'S-Hertogenbosh, The Netherlands. Scientifur Reviewed Articles, 28, 3, 50-57.

Møller, S.H. 2008. Management of mink production in the light of sustainability. Scientifur, Vol. 32, No. 4, 238-248. Proceedings of the IXth International Scientific Congress in Fur Animal Production, August 19-23, Halifax, Nova Scotia, Canada. Scientifur Reviewed Articles, 28, 3, 50-57.