

mink kept in the most widely used cages and under normal management procedures'.

A possible explanation could be the way in which he selected results from scientific publications on which he bases his conclusion.

My work has been cited several times in his article. I have chosen to take as a starting point his interpretation of especially my investigations concerning selection a fearful and confident temperament in farm mink (*Applied Animal Behaviour Science 1996, 49: 137-148*).

He concludes 'ii) *Mink have been kept in captivity for relatively few generations. No research effort has focused on long term selective breeding of mink for reducing fear in relation to farm conditions, and research which has been conducted has, thus far, indicated only that mink can be bred to be more fearful over a few generations*'.

My article was based on behavioural selection in mink over six generations. The mink had been selected in two lines for fearful and confident temperament, respectively, on the basis of a simple and practical test (the stick test). After three generations, a control line was established by cross-breeding the two lines which strengthened the possibility of relating temperament in the two selection lines to a common control line within each generation. It is correct that mink selected for confident temperament did not become more confident during the first six generations. This was due partly to the fact that 80 per cent of the mink in the confident line already reacted confidently, partly that the test favoured the characterisation of fearful rather than confident temperament, and partly due to a great variation in temperament between generations during the first years after selection had started.

However, for each generation the article documents that mink selected for confident temperament are more confident than mink

selected for fearful temperament, and that unselected mink (control line) are less confident than mink selected for confident temperament and more confident than mink selected for fearful temperament.

It therefore seems possible, on the basis of a simple and practical test, to increase the percentage of confident mink and thus improve the welfare of mink under production conditions.

To this may be added an environmentally induced effect resulting in mink becoming more and more confident during the growth period regardless of their genetic potential which shows a positive habituation to farm conditions.

On the basis of this, I regard his conclusion(s) as somewhat biased and unreasonable considering the expressed objective of his article, namely to give a scientific review of the welfare of farmed mink.

There is a need for further research on the environment and management of mink, but it does not benefit the welfare of the mink to neglect the possibility of, through systematic selection, continuing and intensifying the domestication process of the last century.

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Sir,

Dr Hansen claims that our review paper *The Welfare of Farmed Mink in Relation to Housing and Management: A Review* selectively presents results from the scientific literature. He is correct, in writing our review we have been very selective about the results and conclusions we have included. This was necessary because many of the publications in this field do not give sufficient detail to enable the reader to judge how results were produced, and whether all of the conclusions reached are

justified. While it is possible that these studies were concluded in the best scientific manner, they are not well reported in a way which does justice to this position. We have intentionally included only those findings which we believe have been demonstrated to be valid. The conclusions which we draw may not accord with the knowledge or opinion of all of those who have worked in this field, rather they accord with the body of results demonstrated in the available literature.

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