Stress and stereotypies in farmed mink

K.E. Heller
Institute of Population Biology, University of Copenhagen, Universitetsparken 15, DK-2100 Copenhagen Ø, Denmark

ABSTRACT

Stereotyped and normal behaviours were quantified from April to June 1989 among 187 adult male and female ranch mink. It was shown that mink devote no more than 3% of the day to stereotyped behaviour. The frequency of stereotypies is markedly increased leading up to feeding time in the middle of the day and declines to very low levels in the afternoon. Environmental disturbances such as human proximity and transport and unloading at other farm sections, have strong inhibitory effects on the performance of stereotypies. The relation between stereotypies and stress is discussed, and it is suggested that chronic intermittent stress (e.g. stress induced by daily fresh food deprivation), is a prerequisite for the occurrence of stereotypies, but that additional conditions involving low level external stimulation are important.

A total of 147 adult females were divided into two groups: one exhibiting a low level of stereotypy (n = 24) and one exhibiting a high level of stereotypy (n = 24). These two groups were studied from the weaning of pups in June 1989 until mating in March 1990. Normal behavioural activity as well as specified stereotypies were compared and related to stressful experiences. Again, it appeared that acute stress reduces the occurrence of stereotypies. It was found, however, that stereotypies are differentially affected by stress.

Stereotypies in caged mink

G.J. Mason
Sub-department of Animal Behaviour, University of Cambridge, Madingley Road, Cambridge CB3 8AA, UK

ABSTRACT

Stereotypy was studied in 105 adult mink on a commercial farm. Stereotypy largely involved locomotor movements such as pacing. Individuals differed in the amount performed, in the exact movements involved, and in the complexity and variability of behavioural sequences. All 102 stereotypic individuals showed stereotypy before the daily delivery of food. Pre-feeding, there were significant negative correlations between stereotypy and inactivity (r = -0.839, P < 0.001), and stereotypy and normal activity (r = -0.449, P < 0.001). Immediately before food delivery, stereotypies were particularly rapid, and were usually performed in the part of the cage nearest to the approaching feeding machine. This would suggest that the stereotypy is related to appetitive behaviour. However, it is not simply the captive equivalent of hunting; mink also performed stereotypy in response to a number of
arousing situations (such as human disturbance, and enforced separation from their young), and 62% of stereotypic mink performed it in the quiet hours after feeding. Post-feeding stereotypy and inactivity were negatively correlated \((r = -0.502, P < 0.001)\), but stereotypy and normal activity were positively correlated \((r = 0.35, P < 0.001)\).

**Stress and nest-boxes in farmed fox**

L.L. Jeppesen

_Institute of Population Biology, Universitetsparken 15, 2100 Copenhagen, Denmark_

**ABSTRACT**

Farmed foxes are conventionally kept in barren wire cages without a nest-box for most of the year. Only in the breeding period do they have a nest-box, in which they deliver and raise their young. Without a nest-box, foxes are constantly exposed to potentially stressing stimuli from neighbours and farm personnel. With a nest-box attached to the cage all year round, foxes are able to hide at will, and thereby to control their input of stressing visual stimuli. Whether foxes avail themselves of this possibility to control levels of social stress, was examined in an experiment with 100 silver fox vixens. Fifty animals were assigned to the experimental group and kept individually for 2 years in 2-m² wire cages from which they had free access to three nest-boxes. The fifty other animals were assigned to the control group and kept without access to nest-boxes but under otherwise identical conditions.

Experimental animals had lower base levels of cortisol and eosinophil leukocytes, were more active in an open field, and less fearful towards humans. Experimental animals were less fearful and more aggressive or exploratory no matter how and where behaviour was assessed, whether it was assessed in the cage, during capture or in an open field runway. It is concluded that adult silver fox vixens kept with access to nest-boxes all year round experience less stress than control animals kept without boxes.

**Behavioural genetics and domestication**

J.M. Faure and A.D. Mills

_INRA, Station de Recherches Avicoles, Nouzilly, 37380 Monnaie, France_

**ABSTRACT**

Price defined domestication as “that process by which a population of animals becomes adapted to man and to the captive environment by some combination of genetic change occurring over generations and environmentally induced developmental events reoccurring during each generation”. It is