

Mortality in pair- and group-housed mink after weaning

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Abstract

From 2009 until 2011 the mortality from weaning until pelting of pair- and group housed mink (4-5 per group) was recorded at the Research Farm Edelveen. In 2009 the mortality in pairs and groups was 1.3% respectively 1.1%, in 2010 these figures were 1.4% and 1.8% and in 2011 1.7% and 1.9%. The three differences were not significant. It is concluded that group housing and pair housing do not differ concerning mortality. These result differ from Danish results which indicated higher mortality among Danish group housed mink than among pair housed mink.

Keywords: mortality, mink, group housing, standard cage, climbing cage

Introduction

On Danish farms the annual mortality rate of growing mink is 0.12% per week, resulting in appr. 2.5% during the growing period after weaning, but in group housing the mortality was considerably higher than in pair housing (Steen Møller, 2011). In the Netherlands figures in KWIN mention 2.6% and the (farmers) estimated mortality is 2-2.5% ($\pm 0.1\%$ per week after weaning). Although group housing became common during the past 20 years, no indications were found that pair- and group housed mink differ in this respect were found (De Jonge, unpublished data from the Spelderholt). Since mortality during the growing period was not a problem, and because many possible causes of death complicates the analysis, systematic studies were not carried out. Due to the lack of published Dutch data, we present here the mortality rates at Edelveen among pair- and group housed mink, from 2009 onwards, in a new flock introduced in 2009.

Materials and methods

Animals and health status

The stock was the offspring of 1,500 females (glow/brown) which arrived at the farm in march 2009 as young females. There AD status was Iodine-free. In October 2010 the iodine test was switched to the Elisa test and at the end of 2010 the breeding animals had a low Elisa status.

Feeding

Feed was supplied by the feed kitchen Flevo. The mink were fed with the automatic feeding system Farm Pilot, such that the feeding places were 2 hours per day empty.

Part 1. Nutrition, feeding and management

Housing

Pairs were housed in standard cages (w×l×h: 30×85×45 cm). Groups were housed in climbing cages, consisting of a standard cage connected with a smaller cage (30×57×40 cm) on the top. Both standard and climbing cages had one nest box (20×20×15 cm). The two cages will be mentioned STC and CLC.

Group composition

In STC these pairs were housed: mother-sun, empty female-young male, brother-sister. Further STC were filled with three mink: mother-2 suns or 3 young females. In CLC these groups were housed: 1 male and 3 females, 2 males and 2 females, 3 males and 1 female, 4 females and 5 females. Over 90% of the groups came from one and the same litter.

Records

The mortality is registered from July 15th until November 7th. Causes of death were not always assessed and not given in the figures.

Results

Table 1 shows the mortality rates from July 15th until November 7th, per year and per group type and in the bottom line the average per year of the whole stock. Statistics (F tests) did not reveal any significant difference between mink in pairs and mink in groups. Further, Table 1 and the statistics do not reveal any preference for group composition as far as mortality is concerned.

Table 1. Mortality in mink during the growing period per cage occupation at Edelveen 2009-2011.

Cage occupation	Between 15 th of July and 7 th of November					
	Cage	n/year	2009	2010	2011	2009-2011
Pair: 1 ♂ / 1 (old) ♀	STC	2,350	1.3%	1.4%	1.7%	1.5%
2 ♂ / 1 (old/empty) ♀	STC	1,465	1.4%	1.5%	2.4%	1.5%
young 3 ♀	STC	510	1.9%	1.3%		1.5%
Group young 1 ♂ / 3 ♀	CLC	840	0.7%	2.6%	1.5%	1.7%
Group young 2 ♂ / 2 ♀	CLC	3,660	1.0%	1.6%	2.2%	1.7%
Group young 3 ♂ / 1 ♀	CLC	510	1.2%	2.8%	1.1%	1.4%
Group young 4 ♀	CLC	920	1.2%	1.9%	2.0%	1.8%
Group young 5 ♀	CLC	500	1.4%	1.8%		1.7%
Pair	STC	2,350	1.3%	1.4%	1.7%	1.5%
Small group	STC	1,975	1.5%	1.5%	2.4%	1.5%
Group	CLC	6,430	1.1%	1.8%	1.9%	1.7%
Total		10,755	1.3%	1.6%	1.9%	1.6%

Table 2. Mortality of mink during the growing period (from 15 July – 7 Nov 2011).

	July	August	September	October	November	Total
Mortality	0.2%	0.3%	0.5%	0.8%	0.1%	1.9%

Table 2 shows the average mortality per month. STC and CLC are lumped. Data analysis made clear that rates of males, and young and adult females did not differ from each other. Although the causes of death were not recorded systematically, some remarks can be made. In July and August most casualties of dead were due to health deficiencies such as kidney/blather stones. In September and October some casualties were also related with health deficiencies (excessive or declining feed intake, kidney/blather stones, fatty infiltrated liver). Besides some casualties were related with aggressive behaviour. Further, the fur change may be very impactful.

Discussion

During this study, Edelveen did not suffer on severe problems due to weather, food quality or diseases and the mortality rates were normal in the opinion of Dutch mink farmers. An obvious result was that mortality in pairs did not differ from that in groups. So, this study did not reveal an argument in the discussion on group housing.

Still, intuitively one expects that group housing stimulates aggressive behaviour in groups, especially so in autumn when young in the wild leave their families and disperse. If this happened, it did not result in higher mortality rates at Edelveen. On the other hand pelt characteristics of group housed mink at Edelveen do not show a higher number of low graded pelts and even a better quality grading as mink from pair housing (De Rond, 2008). We do not reject the possibility that other stocks differ in this respect. If so, then the problem can be managed by refusing aggressive behaviour for breeding.

References

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