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Dividing large litters reduce number of bites among mink kits (*Neovison vison*)

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Optimal weaning of mink kits

- Weaning age of mink kits: the welfare of both female and kits
 - Minks have one breeding season each year – weaning optimal for female and kits
 - New recommendations implemented in 2006 resulted in weaning age of 8 weeks
- This could potentially result in welfare problems with more bites in the mink production



Optimal weaning of mink kits

- Bites are observed when the mink kits are between four to eight weeks
- Mainly bites among mink kits when they start to eat, dominance within the litter → the smallest kits are bullied – and largest problem in large litters
- Types of bites – ear suckling to wounds



Optimal weaning of mink kits

- Aim of study: weaning age affects biting among mink kits?
- 4 year project with weaning 6, 7 and 8 weeks (removing the female)
- 2010: Weaning day 49 and 56
- 2011: Weaning day 42, 49 and 56
- 2012: Dividing large litters day 42
- 2013: Dividing large litters day 42 (replicated)



Weaning mink kits 2010

- Weaning mink kits day 49 or day 56
- Day 42 to day 49 - 0.4% of kits were bitten
- Day 49 to day 56 - 0.1% of kits were bitten
- Mainly large litters (6+ kits) and 1-2 kits were bitten in the litter
- Mainly female kits (68-80%)
- Female kits were bitten in the neck – male kits ear suckling
- Female kits bitten smaller than sisters – male kits no difference
- Weaning day 49 was too late to prevent biting!



Weaning mink kits 2011

- Weaning mink kits day 42, 49 or day 56
- No difference in the number of dead kits from bites among groups
- Day 42 weaning had the highest number of dead kits from day 42 to 49
- Day 42 weaning had the lowest growth rate from day 42 to 49
- Early weaning of all kits cannot be recommended



Weaning mink kits 2012 + 2013

- Splitting large litters day 42 (6-9 kits/litter)
- 4-5 kits alone – the largest were placed away from the female
- 1361 brown mink females (677 undivided and 684 divided litters)
- Litters with small kits were not split!
- 215 litters were weighed day 42 and 56

Litter size	kits removed (alone)	kits with female
6	4	2
7	4	3
8	5	3
9	5	4

Weaning mink kits 2012 + 2013

Group	% Bites 2012	% Bites 2013	% Average Bites	Total number litters	Average litter size day 42	Kits sex ratio
Undivided control	9.3	6.3	8.1	677	7.68	50.5 / 49.5
Divided Day 42	6.2	3.7	5.1	684	7.71	49.9 / 50.1
			0.03 *			

	Number litters	Weigth day 42		Weigth day 56		Weigth increase day 42 to 56	
		Male kits	Female kits	Male kits	Female kits	Male kits	Female kits
Udivided control	99	334 (84) ab	293 (57) b	748 (123) b	621 (76)	412 (66) b	329
Divided – with female	50	318 (74) b	298 (58) b	754 (111) b	636 (97)	435 (50) a	337
Divided – alone	65	355 (54) a	317 (42) a	794 (81) a	648 (63)	439 (42) a	331
		0.03	0.01	0.03	NS	0.004	NS

SUM UP

Optimal weaning for mink kits

- Weaning day 49 too late - kits already bitten
- Weaning consequently all kits day 42 – not good for small kits
- Splitting large litters day 42 – large kits and minimum 4 kits – reduced bites by 37% and increased growth rates of all kits in the divided litters



Thank You!

