Environmental enrichment in laboratory mice and rats

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Introduction

- Environment in laboratories may deprive animals of their ability to perform species specific behaviours.
- Cages addresses ergonomical and economic needs rather than animal welfare needs
- Environmental enrichment is a way to enhance animal welfare and reducing abnormal behaviours that can otherwise occur.

Conclusion

Even simple enrichment may have great potential in reducing stereotypic behaviours, increase exploratory behaviour and thus enhacing well-being

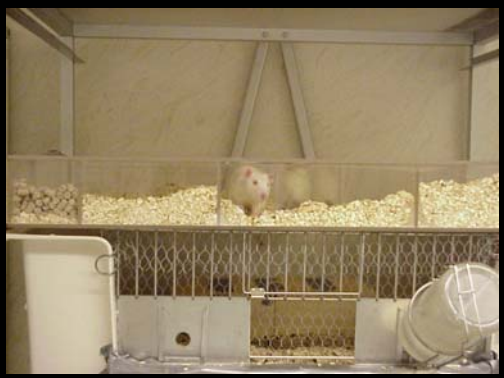
Objective

Environmental enrichment for mice and rats enhance welfare and decrease anxitety and stress related behaviours.

Setup

Experiment I

- 30 female mice
- Nesting material as enrichment
- Undisturbed behaviour in homecage



Experiment II

- 36 male rats
- Foraging enrichment
- Undisturbed behaviour in homecage

Results- from the ANOVA test

Significance was seen in nesting, grooming, climbing, sleeping and feeding for both the time aspect and the enrichment aspect.

Behaviour		Time		Enrichment	
	df	F	P	F	P
Nesting	2	17.38	.003	69.5	<.001
Grooming	2	5.08	.05	.28	.61
Climbing	2	134.1	<.001	1.09	.32
Mounting	2	.33	.58	1.92	.20
Sleeping	2	31.1	.001	.003	.96
Other behaviour	2	4.47	.07	.08	.78
Fighting	2	7.81	.23	2.7	.14
Feeding	2	18.28	.003	.008	.99
Digging	2	8.53	.02	1.69	.23

Significance was seen in other behaviours, feeding, rearing, out of sight, grooming and digging for both the time aspect and the enrichment aspect.

Behaviour		Time		Enrichment	
	df	F	P	F	P
Grooming	2	.05	.83	5.51	.04
Digging	2	2.7	.13	8.38	.02
Fighting	2	.04	.85	2.79	.13
Sleeping	2	.89	.37	7.19	.02
Other behaviour	2	8.92	.01	2.09	.19
Feeding	2	4.89	.05	1.38	.27
Rearing	2	17.9	.002	81.50	<.001
Out of sight	2	9.47	.01	20.59	.001

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Applied Biology 2005