

Pair housing of female rabbits on MTD and reproductive toxicology studies

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Introduction

This project was a combination of several studies conducted at Charles River, Edinburgh and Charles River, Lyon to assess and validate pair housing of rabbits on a range of MTD and reproductive toxicology studies.

The objective was to determine if rabbits on these studies could benefit from the same social housing and exercise regimes that is standard on other non-reproductive rabbit studies, without compromising scientific integrity (Figure 1).

The Edinburgh rabbits were housed in two linked cages, with hay, enrichment devices, hand fed fruit and vegetables, with exercise sessions in a large floor pen 2-3 times per week.

The initial study in Edinburgh comprised pair housing of six pregnant rabbits, followed by a further study with eighteen pregnant rabbits, from gestation days 2 to 29. A further study conducted at Lyon combined pair housing in similar linked cages with a validation of a new analgesia method on thirty pregnant rabbits, on gestation days 0 to 29.



Figure 1. Social housing of rabbits.

Results

Pair housed rabbits utilised both combined cages and spent time both together and apart in various parts of their cage (Figures 2, 3 and 4).

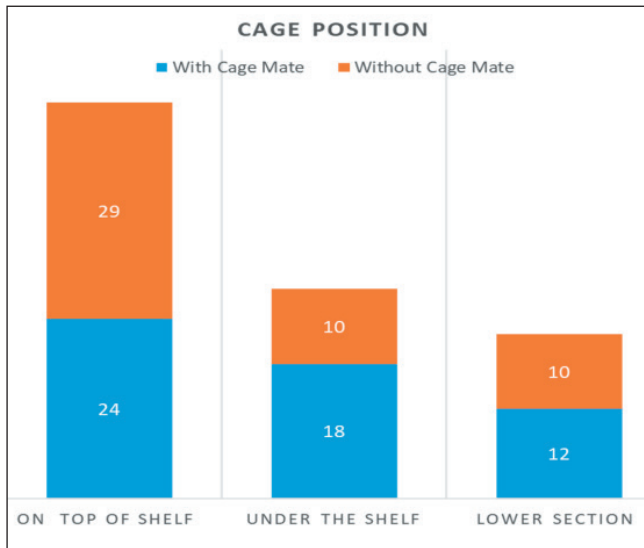


Figure 2. Cage positions with and without cage mate.

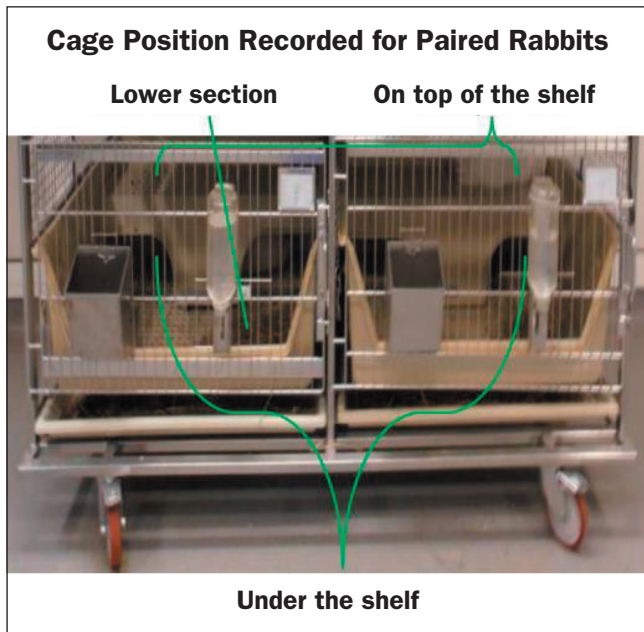


Figure 3. Paired rabbit cage positions.

- There were no adverse clinical or physical observations and no aggression noted.
- Bodyweights had minor initial fluctuations, followed by expected growth curve.
- Food consumption was consistent with minor fluctuations.
- Positive behaviour traits evident, nuzzling cage mates, grooming, etc.

- Normal clinical and physical observations.
- Maternal performance and care were normal.
- Pre-weaning development was also normal.
- No adverse foetal weights or morphology.
- No gross pathology findings.
- The animals were separated to single housing from day twenty-nine for the parturition phase.



Figure 4. Paired rabbits in cages.

Conclusion

All three studies demonstrated positive welfare benefits to pair housing pregnant females during the gestation period of days 0-29 on reproductive studies.

Animals were calm and comfortable; socialising, grooming and moving freely in the enlarged caging.

Although there were minor fluctuations initially in food consumption and bodyweights, these soon settled to give expected results.

There were no adverse in-life or terminal findings.

Rabbits can be successfully pair-housed for reproductive studies, meeting the scientific objectives whilst significantly refining Animal Welfare.

Edinburgh has now established pair housing as standard practice during gestation, benefitting an average of ~1000 rabbits per year.

Other sites within Charles River are progressing with plans to introduce similar social housing as standard protocol.