

# COMPARISON OF NESTING MATERIAL FOR C57BL/6N AND BALB/cN

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## Introduction

Enrichment is a crucial part of maintaining healthy laboratory mice for prolonged periods in a confined space. It can come in many forms, but the most important form of enrichment for breeding mice would be the nesting material provided for pregnant females or those with litter. Our study aims to explore the possibility of using Tampons as nesting materials for both BALB/c and C57BL/6N strains of mice as compared to using C-fold tissues. While the C57BL/6N mice showed a distinct preference for the C-fold over the Tampons, BALB/c mice have shown inconclusive results, which could mean that either the nesting material provided does not make a difference, or that the differences in the properties of the two nesting materials are not significant enough when placed under the stress of a BALB/c mouse's behavioral patterns.

## Methodology

Trio mating mice are placed in a clean cage with respective nesting materials at Day 1 for both BALB/c and C57BL/6N. They are split into 2 groups of 20 cages. Group 1 has 2 pieces of C-fold tissue while group 2 has a single autoclaved Tampon. Nests are scored in a system ranging 1 to 5 whereby 5 is the most ideal nest for 5 days at the same time every morning. Experiment was carried out thrice and an average of the scores was used to obtain more accurate result.

## Results

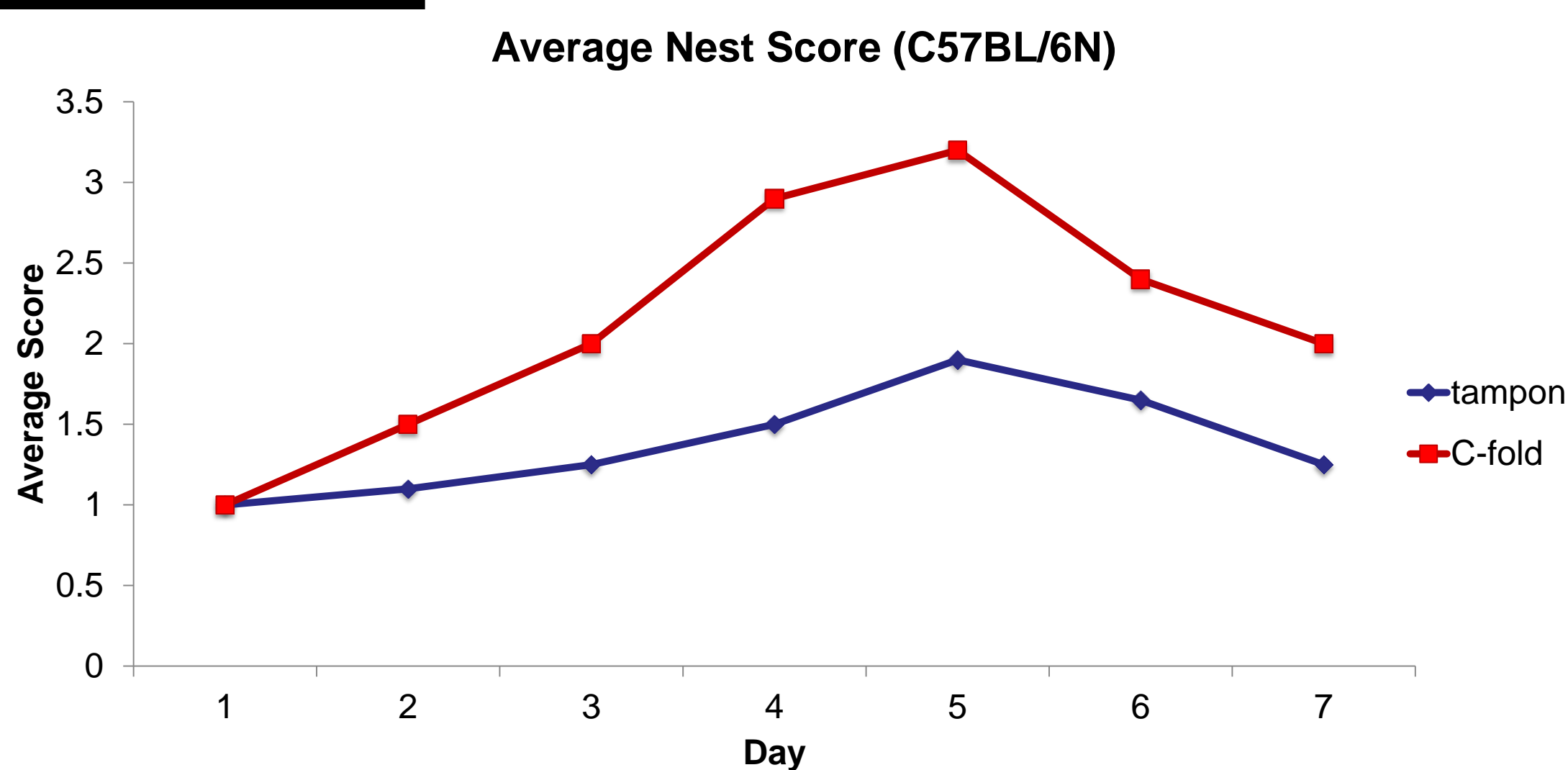


Fig.2 - Nest scores for C57BL/6N mice over the course of a week showing significantly better nests formed when using C-fold/

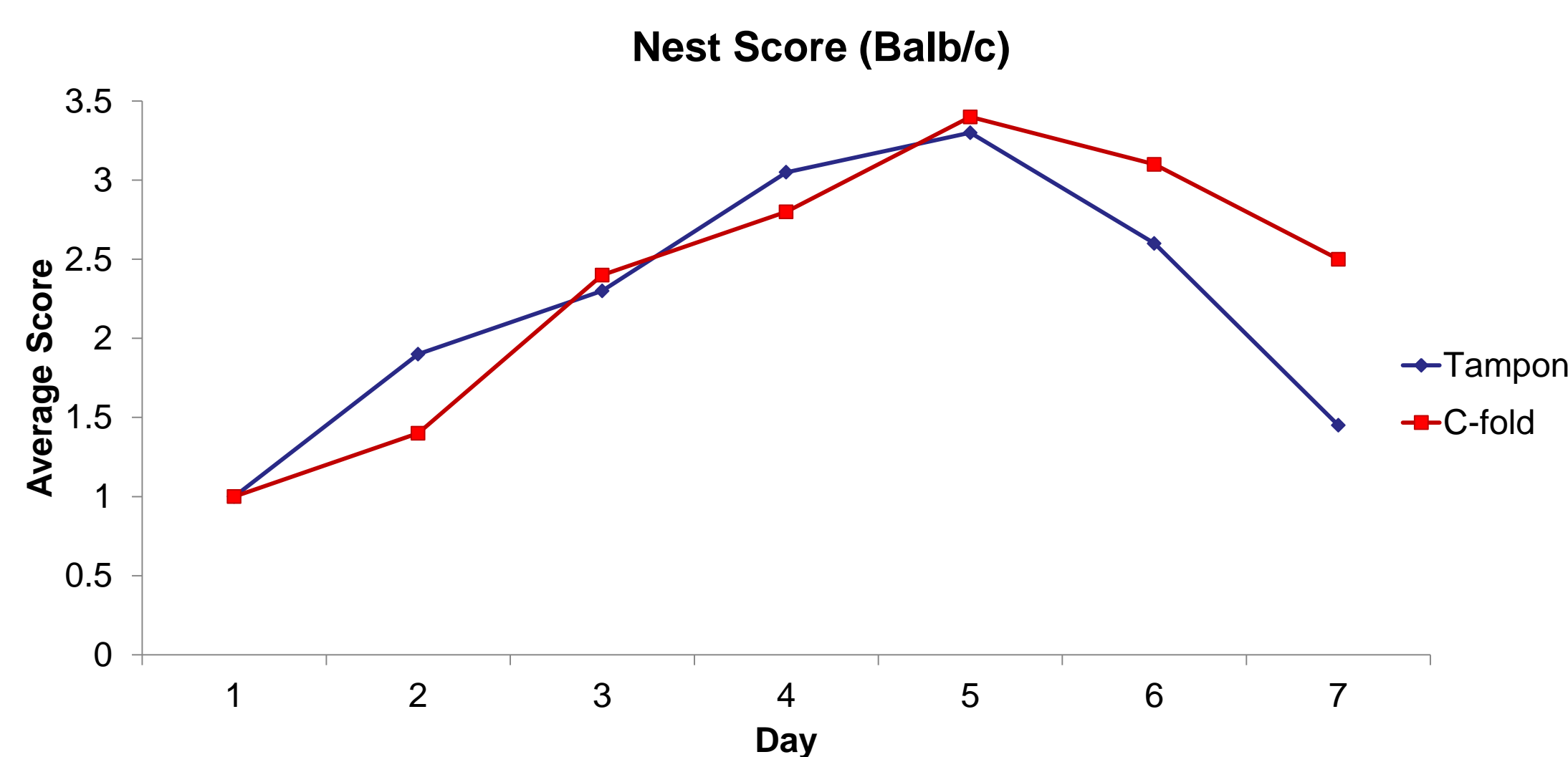


Fig.3 - Nest scores for BALB/c mice show little to no difference in nests formed from both materials. C-fold shows to hold the nest shape better at days 6 and 7.

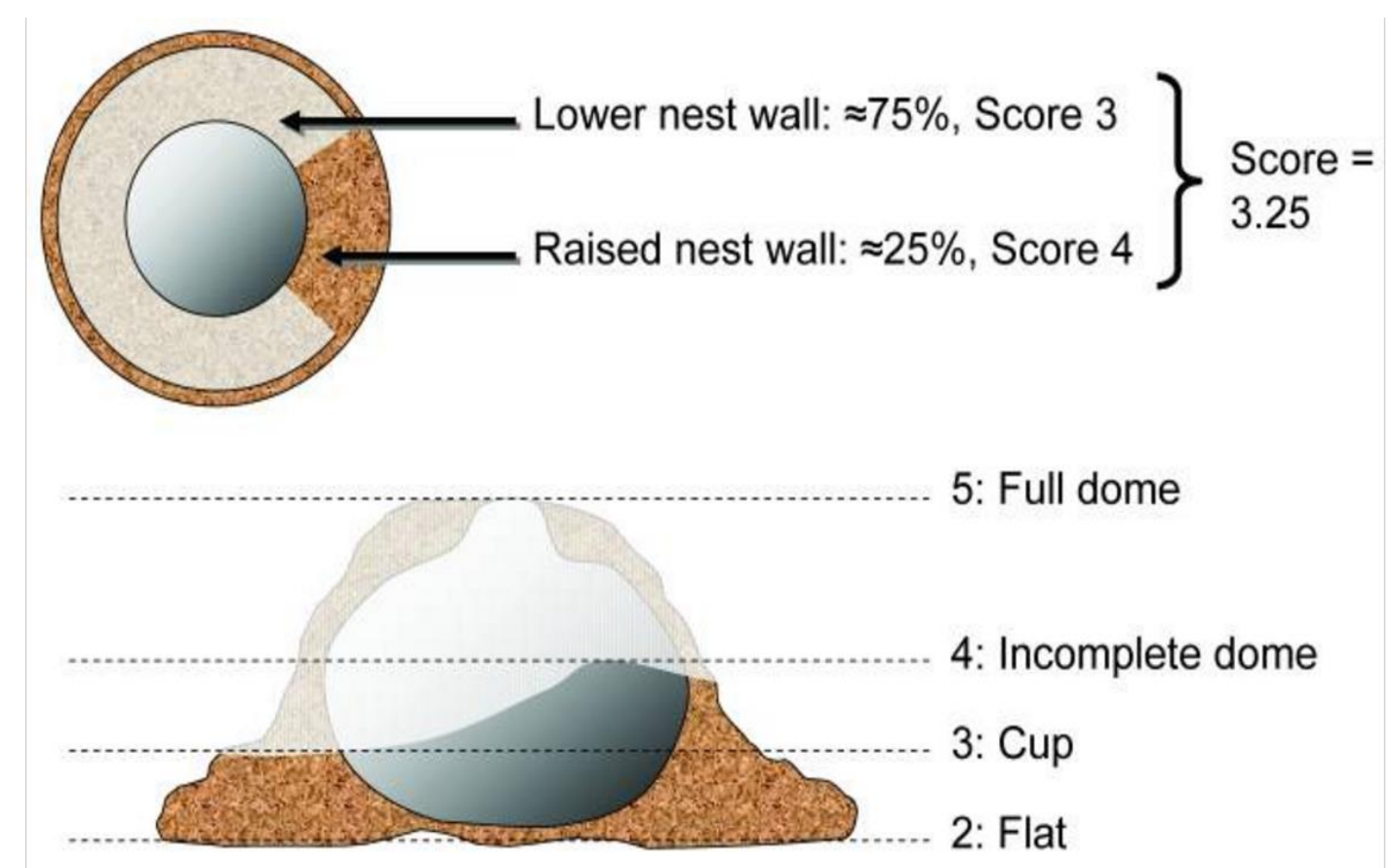


Fig.1 Nest scoring system

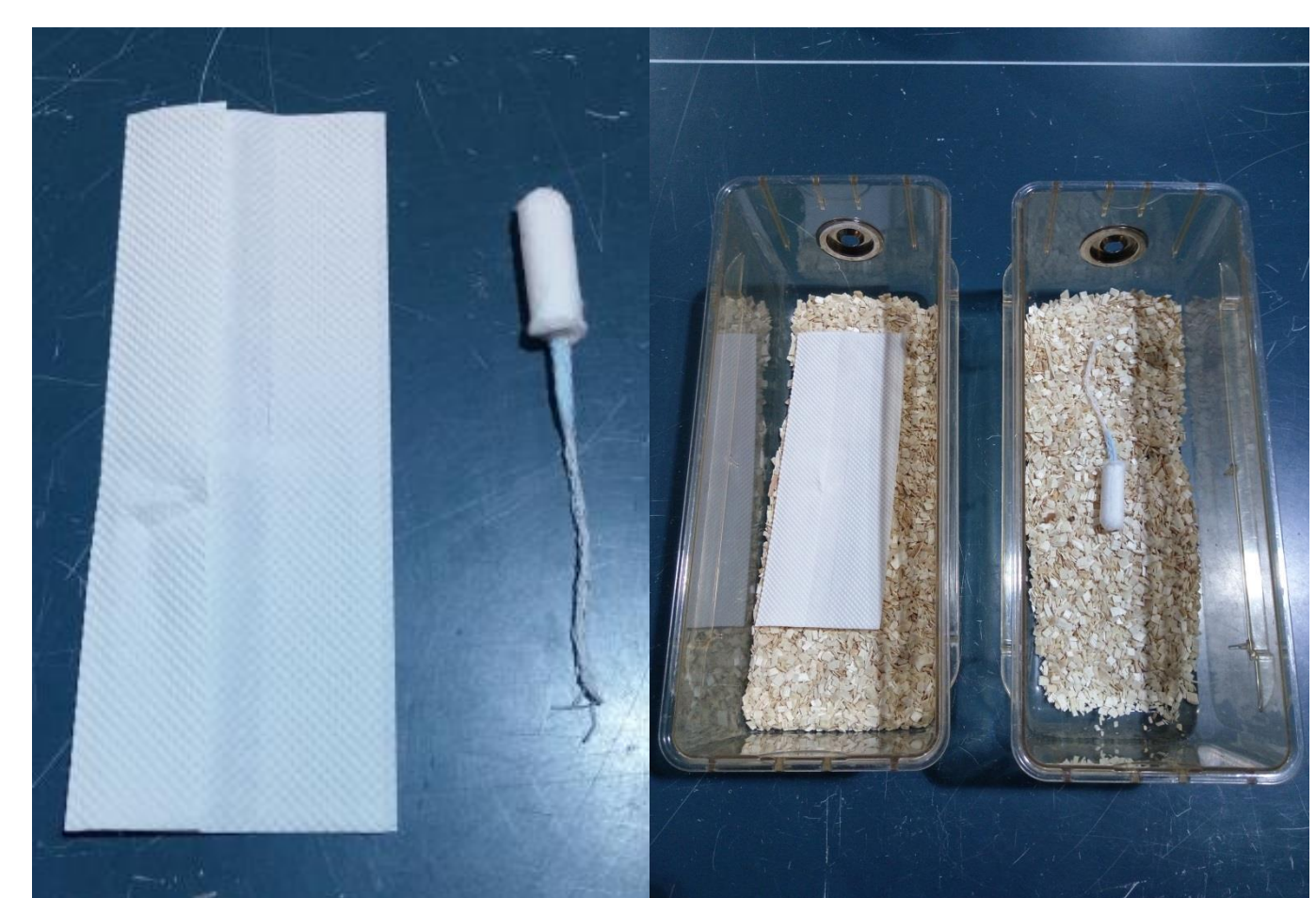


Fig.4 - Comparison of C-fold Tissue and Tampon outside (left) and inside (Right) a cage

## Discussion & Conclusion

C-fold Tissues is still the preferred choice of nesting material due to lower cost and better performance. Tampon is unable to hold the nest shape as firmly as the C-fold Tissue. As such, it can be seen that C57BL/6N mice (Fig.2) form considerably better nests using the C-fold compared to the Tampon. However, there is little to no difference in the nests formed by BALB/c mice using either materials (Fig. 3). This could either be because the mice showed no preference to either material, or that the difference in physical properties of the two materials being tested is too small to be seen when used by BALB/c.

### References:

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