Optimizing Pairing Practices for Female New Zealand White Rabbits (Oryctolagus cuniculus)

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Introduction

The University of Michigan's Unit for Laboratory Animal Medicine (ULAM) manages a large transgenic breeding colony of New Zealand White Rabbits (NZW), with an average yearly census of up to 400 rabbits. Within the last year, ULAM has created and maintained 172 pairs of rabbits. Male and female rabbits are pair-housed upon weaning and often only become singly housed upon experimental necessity.

Methods

Pair Evaluation Methods

To evaluate the latency scores of individual rabbits, we used a novel object approach. Rabbits were introduced to a novel object, and their latency scores were recorded. Latency scores were classified into three categories: Dominant (less than 35 seconds), Subordinate (60 seconds or more), and Pass (35-60 seconds).

Results

Figure 5: Latency Scores Within Stable Pairs

Figure 6: Pair Introductions

Figure 7: Latency Scores of Compatible Pairs

Figure 8: Positive and Negative Predictive Values

Discussion

Pair introductions made by temperament test matching has a current success rate of 71% (n=114 pairs) as shown in Figure 6.

Future Directions

Further research is underway to consistently evaluate established pairs by using the LA temperament testing model. We will evaluate the effect of pair stability and longevity as it relates to temperament scores, and investigate if there are additional metrics that can better predict pair compatibility.

Conclusion

Pair introductions utilizing temperament testing creates an increased ability to match compatible female NZWs, allowing for a greater chance of creating a successful pair.

References