

WESTERN SYDNEY UNIVERSITY: FIELD PROJECT 2019

Title of project: INVESTIGATING THE BEHAVIOURAL RESPONSES TO ROUTINE HANDLING AND EXPOSURE TO NEW ENVIRONMENTS IN RABBITS

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Summary/Overview

- **Aim:** To investigate the influence of routine handling and environmental stimuli to behavioural stress responses within domesticated adult rabbits.
- **Background:** When experiencing levels of stress, rabbits demonstrate stress-indicator behaviours whereby psychological and environmental stresses are contributing factors to their stress.
- **Key findings:** It was determined that there was a higher occurrence of stress indicator behaviours within rabbits upon their return from the petting zoo excursion. There was significance in 'grooming' behaviour; however other behaviours were not significant between treatments.

Background

- **Client's problem:** Issue had been raised about the stress experienced by adult domesticated rabbits in regards to routine handling and change in the animal's surroundings when taken out on petting zoo excursions. Although there are already techniques in place which follow DPI regulations to minimise stress in animals, we want to further prevent stress by improving handling practices and techniques when on excursions.
- **Literature:** As positive relationships between rabbits and humans can be formed, good husbandry techniques would increase the tolerance of handling and create a positive bond between them. However, studies show that the increased presence of humans within the environment corresponds to negative behaviour in rabbits as well as sheep and pigmy goats. Rabbits lack control over new environments which cause them to display aggression, however management strategies are to be put in place for them to feel safe. Through the evaluation of stress indicators, studies stated that it is highly important to implement management strategies to avoid aggressive and negative behaviours.

Methods

- Observational study whereby a total of 12 rabbits were observed for 10minutes (1 min intervals) over a 6-week period, with one observation day per week. For the control, 2 rabbits were left unhandled and not taken out of petting zoo excursions, whereas the other rabbits were handled and exposed to environmental stimuli by Kindifarm staff. An ethogram was used of the expected stress behaviours.
- Identification of study and control rabbits based on unique colouring and markings. This is recorded on a data spreadsheet with accompanying photos.
- Data was put into column graphs and the data analysis involved One-Way ANOVA on Excel to determine frequency and mean occurrence of behaviours.

Key findings/results

- Rabbits 'after' the exposure to routine handling and environmental stimuli experienced a high level of significance in 'grooming' behaviour between treatments ($p = 6.565E-09$). The 'before' and control rabbits displayed a significantly lower mean occurrence of the behaviour (fig. 1)
- Mean occurrence of 'out of sight' behaviour was significantly high in the 'after' treatments, but this behaviour did not occur within other treatments; thus a significant difference of $p = 0.0004691$ (fig. 2).
- Similarly, behaviours including 'foot thump' and 'digging' was not displayed within 'before' and 'control' treatments. Low mean occurrence of these behaviours had a significant difference between each treatments ($p = 0.493322$) (fig. 2); thus the hypothesis is accepted.

Conclusions

- Although extremely low levels of stress response occurrences from both groups of rabbits, there is a higher occurrence of rabbits displaying stress-related behaviours 'after' their arrival from the petting zoo excursion. Thus handling and environmental stimuli result in a level of stress in rabbits.
- Rabbits groom themselves several times a day to maintain hygiene, however rabbits continuously groom themselves over a long period of time when experiencing stress.
- Due to low mean occurrence of 'grooming', it was concluded that there was a possibility that rabbits were not experiencing stress but simply grooming; thus further study and research is needed.

Recommendations

- Results indicate good animal management and husbandry practices.
- To further minimise or eliminate stress responses in rabbits, the improvement to existing management strategies at petting zoo excursions is needed.
- Strategies include reducing frequency of handling and alternating between each rabbit for handling (e.g. 10 minute intervals) which would allow for longer breaks between each holding times. Conducting other activities (e.g. bottle feeding, introduction of other animals) when rabbits are on a break. Allow for retreat space within the pen and provide additional shelter (e.g. stool or pet carrier) to them to retreat to for added security.