



Terms of Reference

AALAS-FELASA Working Group on

Pig training and conditioning for research

Background

Large animal species such as pigs and mini-pigs are studied to better understand basic biology and physiology as well as for disease pathophysiology, drug discovery and drug safety assessments. Pigs are particularly useful for research in dermatology, wound healing, surgical models, drug development and tissue and organ transplantation. During research studies, animals may be handled, transported, and restrained for dosing, blood collection, data gathering or clinical observations. Recent research indicates that minimization of stress and undesirable impacts to animals while performing these procedures improves animal wellbeing, caretaker satisfaction and data strength. In consequence, many institutions around the world have begun to explore ways to enrich housing conditions and implement positive reinforcement (PR) training and operant conditioning (OC) techniques in working with large animal species.

Whereas PR is an attractive way to train animals to fulfil a task, OC allows exploration of cognitive abilities. And some animals seem to welcome such training. Reinforcements for OC are often split in 4 categories: positive, negative, punishment, and extinction (termination of the test). The negative reinforcement is the alleviation of a deprived condition. Sometimes a puff of air is the punishment, which is likely to be a less distressing experience than water deprivation or isolation for example. OC and PR may be part of the same protocol, they may be linked to a negative condition, and the training may enhance or impair the animal's welfare.

There is consequently a need to detail PR and OC techniques, to assess potential refinements, and to discuss alternatives to the most severe options. The review and compilation of good practices in the use of environmental enrichment, PR and OC training in pigs and mini-pigs would be a valuable addition to the research toolbox improving animal and staff wellbeing and data integrity.

Tasks, proposed line of work

The working group shall:

- Focus on pigs and mini-pigs used for research
- Review positive reinforcement training methods
- Review techniques used for operant conditioning



- Review environmental enrichment practices as they relate to positive reinforcement and conditioning
- Discuss benefits and negative impacts on animal welfare of methods used for environmental enrichment, PR training, and OC
- Discuss potential impact on experimental outcome of the different techniques used for environmental enrichment, PR training, and OC
- Propose good practices for environmental enrichment, PR training, and OC

Composition of the working group

The Working Group will have 6 members including one convenor, 3 nominated by each organization (AALAS and FELASA). The working group should be composed of behaviour scientists, animal technologists, scientists, veterinarians, or other experts with a well-documented track record on the development and implementation of refinements for the housing conditions of laboratory pigs, PRT or operant conditioning techniques.

Budget

A total 4000 Euro for telephone conferences and 1 face-to-face meeting, that should be scheduled during any international event (e.g., AALAS, FELASA) where some members may attend at their own expenses.

3000 Euro for Open Access publication.

Deadline

2 years after start. The final report will have to be approved by both organizations before being submitted for publication.