Introduction

Training of laboratory animals is not as uncommon as it used to be. There are now many companies that routinely train the animals in their care. They can either be trained for husbandry tasks or procedures directly related to the study.

Reduction Refinement Replacement

Classical and Operant conditioning are proven tools to train animals and adhering to these principles the training is fast and efficient. The use of a clicker has become very popular, to the extent that this type of training is commonly called Clicker Training.

Göttingen Minipigs are increasingly being used in a multitude of research projects and can be trained and used using this principles. Operant conditioning is based on voluntary participation, so it has to be worthwhile for the animal to perform the task. Because Göttingen Minipigs are greedy they can certainly be bribed with food as currency.

Materials

Göttingen Minipigs of various ages and both genders
Standard weighing chart: SDS Dats UK
Clicker
Target
Box trolley and ramp

Theory

Classical Conditioning = stimulus - response = Pavlov’s experiments

Using a dog as the animal model for the training of laboratory animals, Pavlov's experiments showed, that a neutral stimulus, is paired with a primary stimulus, and trained into a conditioned stimulus. The conditioned stimulus is now a tool of communication with the animal. It is based on sensory value.

Operant conditioning = action - consequence = Skinner’s experiments

Operant conditioning is the process of shaping behavior by reinforcing the behavior of an animal. It is a method of training animals where the clicker and the treats are sacred.

Training Protocol

The training steps to move a Minipig in an elevated Box

1. Charge the Clicker
2. Introduce the target stick
3. Move the target, let the Minipig follow
4. Introduce Box and ramp
5. Guide the Minipig in the Box = jackpot
6. Guide the Minipig out of the box
7. Prepare Animals for study

The Basics of animal housing have to be understood by the trainer before the animals are exposed to painful or only slightly unpleasant like:

Phase 1: Preparation

Preparation can start before the animals are in the house and should include:

- Training the trainer
- Creation of a training plan

Obtaining the necessary equipment and materials

Socialization of the animals and gather all the information about the species and individuals

Phase 2: Training the animal

Training the animals is typically done during the acclimatization period. Minipigs are ready to be trained when they eat a reward that is thrown in front of them or eat it out of the hand.

The trainer can start in their home pen or in a separate room. If done in a separate room let the Minipigs explore it first for an extended period so the novelty wears off and it distraction during training is reduced.

Phase 3: The actual study with the trained animal

The date of the study is set when the training has been continued for this phase is required.

Final Comments

We found that good preparation is very helpful to achieve success in training. As not all animals can be trained it is preferable to stop training and try again with another animal. Minipigs can be trained to walk into an elevated box in less than two hours actual training time.

The actual study with the trained animal

Preparation

- Preparation
- Arrival of Minipigs
- Start of Study

Timeline

Tree general phases could be identified, the length of the first two can differ depending on the individual animal or trainer and the transition from one to the other is not always clean-cut.

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References and Acknowledgements

We thank the following individuals and organizations for their contributions to this work:

- Jamie Lovaglio, Pacific Northwest National Laboratory, USA, Personal Communications
- Reneé Blye; Robert Burke; Clare James; Rosenann Vorce, Anne Fitzgerald; Melissa Cox, PGRD Ann Arbor Laboratories, Pfizer Inc, MI 48150
- Finula Arblaster, Clicker training in Minipigs, IAT 2010
- Bertelsen Thomas; Nielsen Tinna Chrone; Lund Gitte; Gade Laust Peter, The use of Clicker Training in Minipigs, Scand las 2007

The expertise obtained in training animals is universal and can, with adjustment to the traits and needs of the particular animals in question, be applied to other species that are in the facility. The clicker and the treats are sacred – do not dull them.

Minipigs for Topical Safety Studies, LASA Wintermeeting 2013

Even though the study has started, the Minipigs will not stop learning and some attention in training has to be given. As a reward a charged clicker other behaviour could be trained, as enrichment for the Minipigs and to improve the trainers skills.

Conclusion

We found that good preparation is very helpful to achieve success in training. As not all animals can be trained it is preferable to stop training and try again with another animal. Minipigs can be trained to walk into an elevated box in less than two hours actual training time. There is however great individual differences how fast they learn the behaviour. It is important to keep the training sessions free of objects that are not required as they tend to distract the Minipigs. The success of the type of training is also dependent of the skills of the trainer to a high degree. Minipigs required particular care and patience.

The initial investment of time to educate staff and train the Minipigs can be considered.

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