

SESSION OVERVIEW

Chair: Valerie Benka

Speakers: Dr. Raffaella Leoci, Valerie Benka

**ALREADY STERILIZED OR NOT?
METHODS OF MARKING ANIMALS**

Valerie Benka

Project Manager, Alliance for Contraception in Cats & Dogs

The development and introduction of non-surgical sterilization and contraceptive methods promises great advances for animal welfare and population control, particularly for free-roaming animals. It also carries compelling questions, one of which is how to recognize sterilized (or contracepted) animals if there is no physically visible indicator of treatment. The need for a method to mark and identify treated animals has become increasingly pressing as non-surgical methods, including Zeuterin™/EsterilSol™ and Suprelorin®, are available in some countries, and other technologies are being tested in the field.

Certain methods of marking free-roaming surgically sterilized animals, namely ear notching and ear tipping, are quite widely recognized as identifying a spayed/neutered and vaccinated animal. For animals who are anesthetized for surgery, these methods are very viable. Among their strengths, they are permanent, they can be identified from a distance, and they are low-cost.

Non-surgical options present some twists to the marking and identification puzzle. First, in contrast to surgical sterilization, non-surgical options should ideally not require anesthesia, but at most an analgesic and short-acting sedative. This allows easy and safe use in the field but renders a painful and/or invasive marking procedure counterproductive. Second, non-surgical options may be permanent (such as Zeuterin) or temporary (such as Suprelorin). Consequently, it would be important to have identification that offered more than binary information and could offer such information as when an animal required re-treatment.

It is worth noting, as well, that although free-roaming animals and non-surgical sterilants and contraceptives present a strong impetus to identify a “better” way to mark a sterilized animal, there are many potential applications for and beneficiaries of new developments.

- **Surgically sterilized free-roaming cat and dog populations:** Current methods of identifying surgically sterilized free-roaming animals have some potential limitations. A frostbitten ear may be mistaken for one that is “tipped,” particularly if viewed from a distance. Collars are not permanent and carry some degree of risk, ear tattoos can fade, and abdominal tattoos require handling an animal to identify. Subdermal microchips require technological aid to identify. New and/or improved methods of marking could benefit animals undergoing traditional “trap-neuter-release” (TNR), “animal birth control/anti-rabies” (ABC/AR), or “catch-neuter-vaccinate-release” (CNVR) programs, as well as the organizations who operate these initiatives.

- **Rabies vaccination campaigns:** In developing countries where rabies is endemic, both governmental and non-governmental entities frequently conduct mass canine vaccination campaigns. During these initiatives, dogs are commonly sprayed with a temporary paint or ink so that they are not re-vaccinated during the campaign; however, no long-term visible method exists to denote if and when an animal was vaccinated. A durable mark conveying rabies vaccination date(s) could save time and resources associated with both catching and vaccinating a free-roaming dog.
- **Livestock and marked/monitored wildlife populations:** Ear tags have long been used to mark wildlife and populations of animals raised for food. A new and/or modified method of marking could reduce ear tag loss and benefit these populations of animals.

The two presentations in the session “Already sterilized or not? Methods of marking animals” sought to begin answering the question of how to optimize options for marking non-surgically sterilized and contracepted animals, with potential benefits for other cohorts of animals as well.

Dr. Raffaella Leoci reported on the first known study to scientifically compare ear tagging (roto-tag and swivel tag) and “ear whitening,” or freeze branding, on a small number of free-roaming dogs in southern Italy. The objective was to evaluate which method of marking is more humane, less stressful and painful for the animal, and easiest to perform on a large scale. The researchers found little difference in terms of stress between the two marking mechanisms, but identified potential functional differences between the roto-tag and swivel tag that warrant further investigation. The researchers found the process of ear-whitening to be complex (e.g., required much more time and experience) and therefore impractical.

Valerie Benka presented the results of ACC&D’s May 2013 Think Tank on marking methods, as well as the preceding InnoCentive® Challenge to identify novel methods for identification. Both have formed the foundation for a potential organizational project to design an improved method for marking animals, with the current focus being a creative adaptation of an ear “tag” that reduces chance of loss, infection, damage to the ear, and pain associated with application.

Please view the narrated presentations and/or individual presentation abstracts for further information on each project.