


ZINC GLUCONATE FOR STERILIZATION OF MALE DOGS IN THE GALAPAGOS



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Dogs in the Galapagos



- Dogs and cats are invasive species
- Predatory threat to marine iguanas and birds
- Concern that canine distemper virus may threaten sea lions





Isolation



- Movement of animals between islands is strictly prohibited
- Vaccines are prohibited
- Smuggling of purebred dogs is growing

Animal control



- Historically, Galapagos National Park Service culled dogs and cats
 - ☑ Poisoning campaign 3 years earlier antagonized relations with villagers
- Animal Balance project
 - ☑ Partnership with GNPS (protection of native animals) and CIMEI (promotion of economic viability, tourism)
 - ☑ Temporary sterilization clinic set up at Darwin Research Laboratory at the Giant Tortoise Breeding Center
 - ☑ Provided space, transportation, logistical support, 4 staff


Isla Isabela

- Largest island in Galapagos
- Puerto Villamil fishing village
- Population
 - ☑ 1,500 residents
 - ☑ 150 cats
 - ☑ 320 dogs




Goals of the project

- Sterilize the maximum number of cats and dogs, leading to reduction of the population by attrition
- Permanently identify the animals
- Enhance the human-animal bond
- Humane education
- Enhance training of local veterinarians
- Leave behind a sustainable program





Collection of cats and dogs

- Few animals were feral
 - ☑ Although most were free-roaming, they returned to a yard at night
 - ☑ Abandoned plans for trapping at night
- Initial suspicion about the project among villagers
- Rode door-to-door to meet with families





Procedures

- Identification
 - ☑ Dogs: microchips, photographs, collars
 - ☑ Cats: ear tipping
- Selamectin (Revolution) for all animals
- Sterilization
 - ☑ Cats: Spay, castration
 - ☑ Dogs: Spay, castration, Neutersol

Neutersol



- Zinc gluconate for intratesticular injection
 - ☑ First available in US in 2003
 - ☑ Unavailable since 2005
 - ☑ Esterilsol currently in Mexico and South America
 - ☑ Induces testicular sclerosis, atrophy, sterility
 - ☑ Reduces testosterone, but not as much as castration

Neutersol experience

- Easily administered with mild or no sedation
- Both puppies and adults were treated
 - ☑ Licensed only for puppies 3-10 months old
- Dose 0.1-1.1 ml/testicle
 - ☑ Licensed for testicles 10-27 mm width
 - ☑ Licensed dose 0.2-1.0 ml


Neutersol intratesticular injection



Outcome in 161 male dogs

- Dogs returned to their owners for observation following sterilization
- Surgical castration – 59 dogs
 - ☑ Two skin dehiscence (3.4%)
 - Required minor surgical revision
- Neutersol – 103 dogs
 - ☑ Scrotal swelling and tenderness common during first week
 - ☑ Four injection site reactions in adult dogs (3.9%)
 - Required major surgical debridement
 - 2 scrotal ablations

Neutersol reactions



Reasons for reactions?

- Similar rate and type of reactions reported in Neutersol licensing trials
- Similar experience in Mexico at beginning of 10,000-dog campaign
 - ☑ Reaction rate decreased as team developed more experience
- Improper injection technique?
- Lack of confinement post treatment?

