

Voluntary Improvest® Injection Training for Warthog Sounder

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Animal Space is Often Limited

- Eliminates the need for The Living Desert to ship out offspring
- Saves valuable spaces needed for other animals
- Shipping can be costly and difficult to accomplish



- In early 2018, The Living Desert began working towards the goal of having one large family sounder group of warthogs
- Typical zoo setting is small groups
- Often older offspring need to be sent out to other facilities instead of staying within the sounder



Goals




- To accomplish this goal we replicated a program currently in use at the Barcelona Zoo in Spain
- Improvest® injection training program for the current 2.8 sounder at The Living Desert.


- 5.7 in Barcelona group
- Not used on their males
- We opted to use on males and females




Vet “To Do” List

- Given to Vet, Dr. Andrea Goodnight, as 1st on plate to accomplish
 - Developed a Material Transfer Agreement with Zoetis
 - Conference calls with representatives/legal team
 - Confirmation of drug use as agreed upon
 - Consult with Zoetis scientific advisor on dosing schedule
 - Consulted with Dr. Anneke Moresco, Denver Zoo Research Manager, on dosing
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What is it?

- Gonadotropin releasing factor (GnRF, equivalent to GnRH) analog-diphtheria toxoid conjugate
 - Alternative to physical castration for eliminating boar taint in commercial swine
 - Suppresses both male and female reproductive hormones, similar to ovariectomy or castration
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Dosing schedule:

- Initial dose (2 mL) = priming dose
 - Second dose (2 mL) = 4 weeks later
 - Booster (2mL) = 12-14 weeks later, unless behaviorally noted that animals may be cycling
 - Booster (2mL) = 12-16 weeks later
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Storage



- -80° freezer
- Aliquoted into individual syringes
- Each syringe can be frozen/thawed up to 3 times


Schedule Examples

0.1 "Tutu" via pole syringe:

- Started earlier than other females due to vaginal prolapse
 - 1st dose Jan 28, 2018
 - 2nd dose March 8, 2018
 - 3rd dose (Booster) May 17, 2018
 - 4th dose (Booster) August 13, 2018
 - 5th dose (Booster) November 13, 2018
 - 6th dose (Booster) February 6, 2018
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2.0 Squiggy (10) & Everett (4)

– Via pole syringe or hand inject:

- 1st dose May 17, 2018
 - 2nd dose (Booster) June 18 – Everett/June 20, 2018 Squiggy
 - 3rd dose (Booster) August 27, 2018
 - 4th dose (Booster) November 21, 2018 hand inject
 - 5th dose (Booster) February 19, 2019 hand inject
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Training



- The sounder is being trained for voluntary injection in a behind the scenes area
- Takes place on habitat but not viewable by guests

Training Team

- 5 keepers
- 2.8 warthogs
- Training occurs once a day



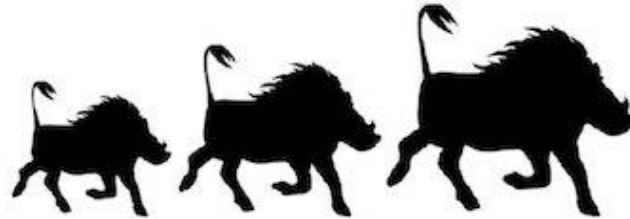




Set Backs

- Squiggy/Everett intro attempt
 - Tried on several occasions
 - Sire was just too confrontational
 - Lack of space to let them "sort it out"
 - Everett received a transfer recommendation
- Fecal collections for hormonal monitoring
 - Able to collect from males
 - No current holding space to collect individual samples on females





- Pole syringe issues
 - Good pole syringe “recycled” one night
 - Needle breaking straight on/changed to an angle
- Training area difficulties
 - Makeshift chute
 - Spray marking for identification



Moving Forward



- 1.6 on habitat
- 1.0 4 year old shipping out in May/June
- 0.2 yearlings back with 1.6 end of April for complete sounder of 1.8

Future Plans

- Training area where guests can observe voluntary injection and other training for the sounder group
- Eventual integration of the entire sounder will provide guests with an up-close experience of a large family group of warthogs which replicates a natural family group in the wild
- Fecal collections on a regular schedule



Questions?

