

Giant pig caught on camera ravaging dumpster near school goes viral

By Natalie Wolfe | news.com.au



(Credit: Tu Dong, Facebook)

Development of a Toxicant for Feral Swine

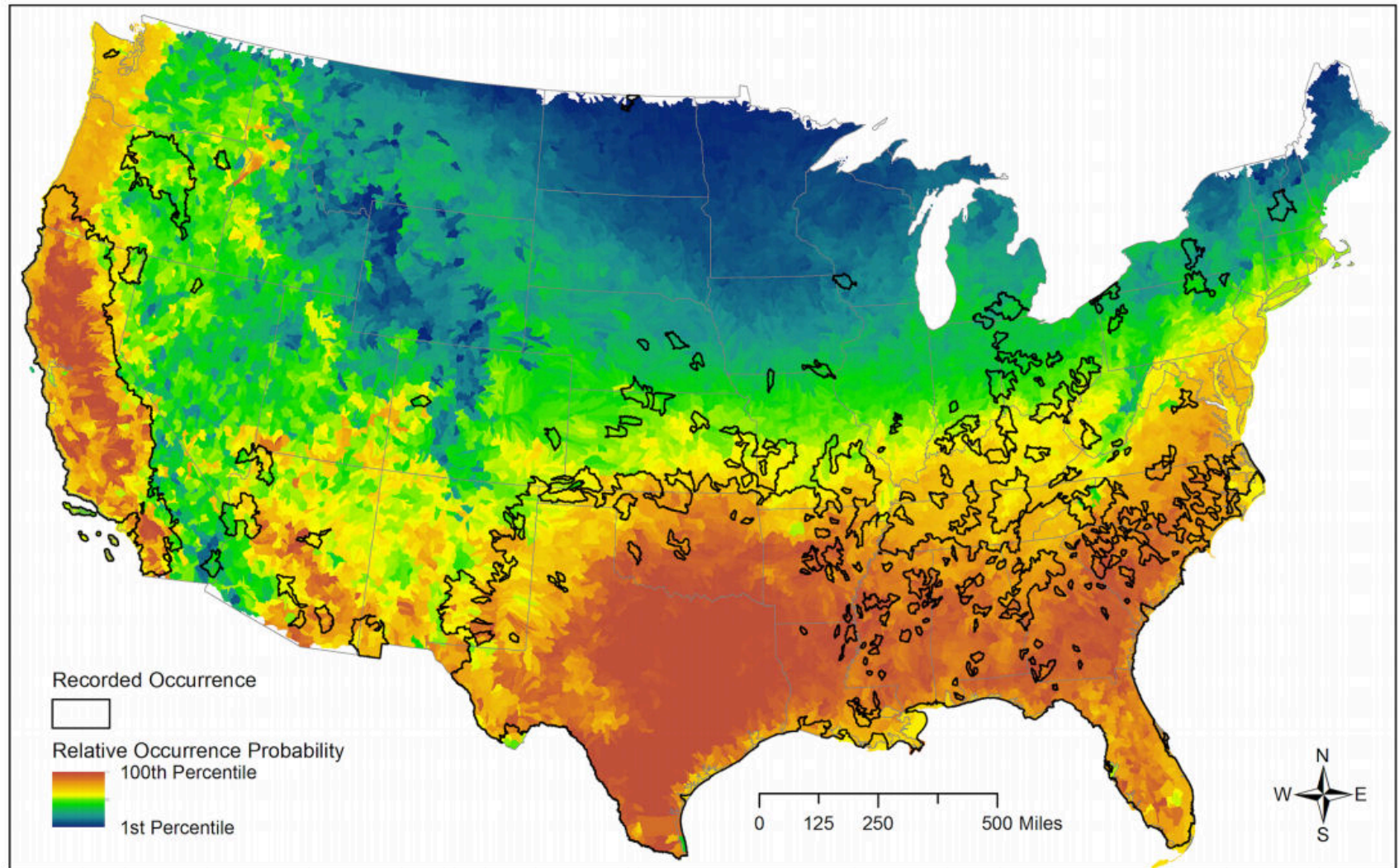
G.T. Gentry

Bob R. Jones - Idlewild Research Station

Dean Lee Research Station



Proposed Relative Distribution

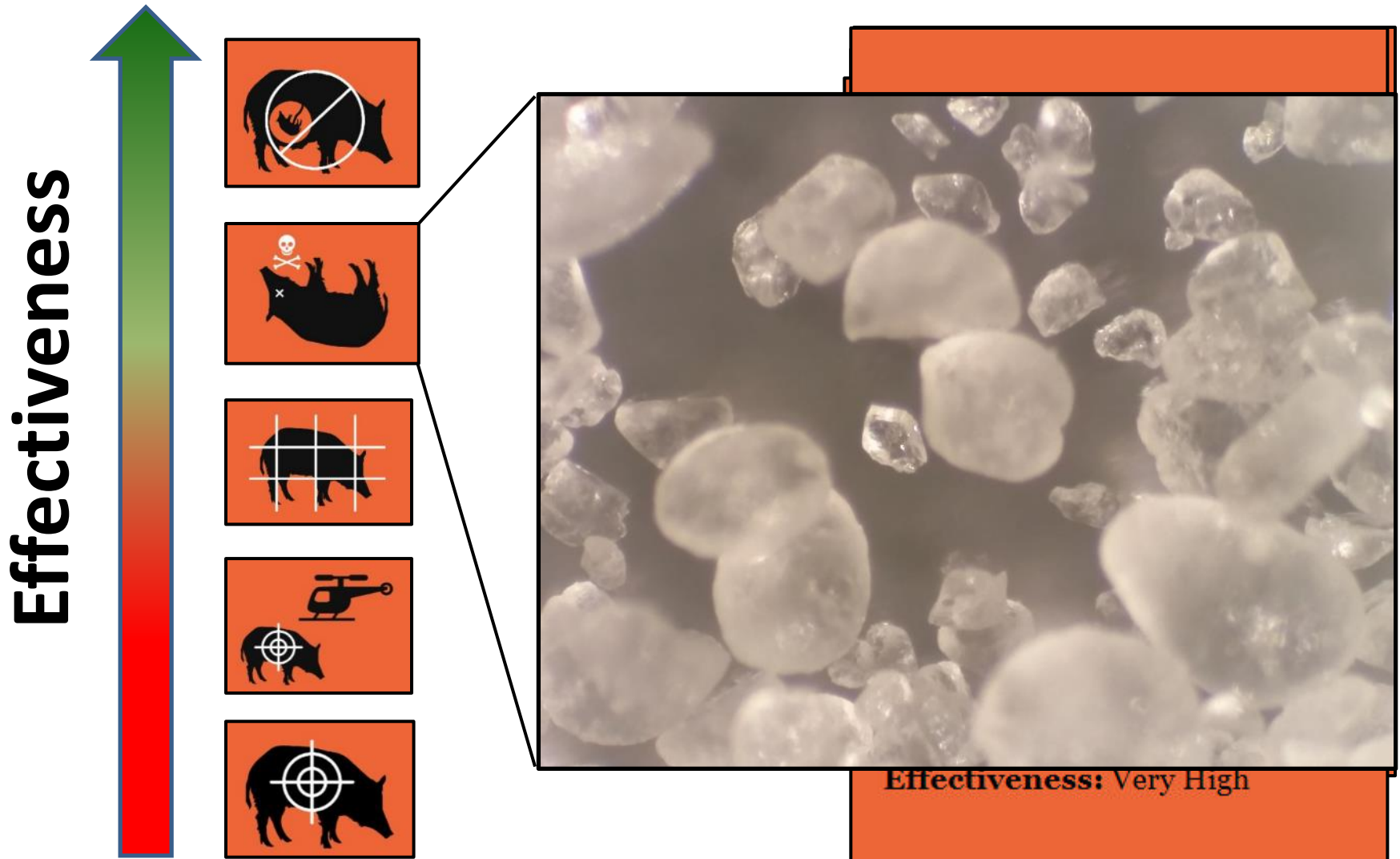


Factors negatively impacting – Days below -4°C , Distance from water, Forest cover
Factors positively impacting – Days above 35°C , Forage availability, heterogeneity

(McClure et al., 2015)

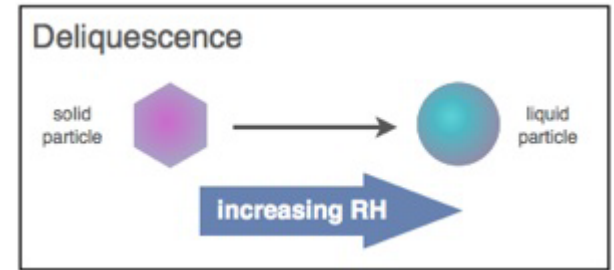


Control Options



Sodium Nitrite

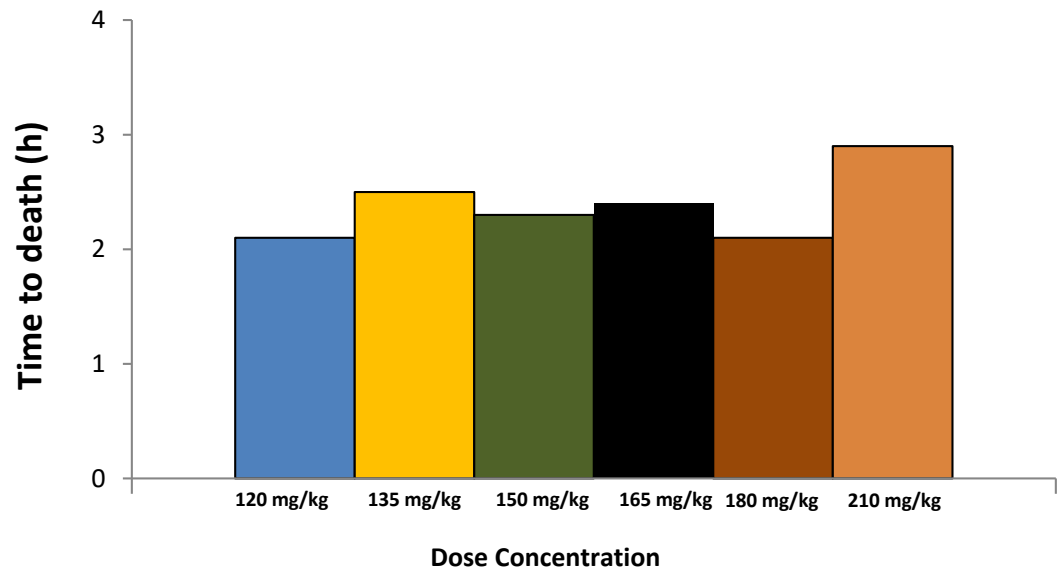
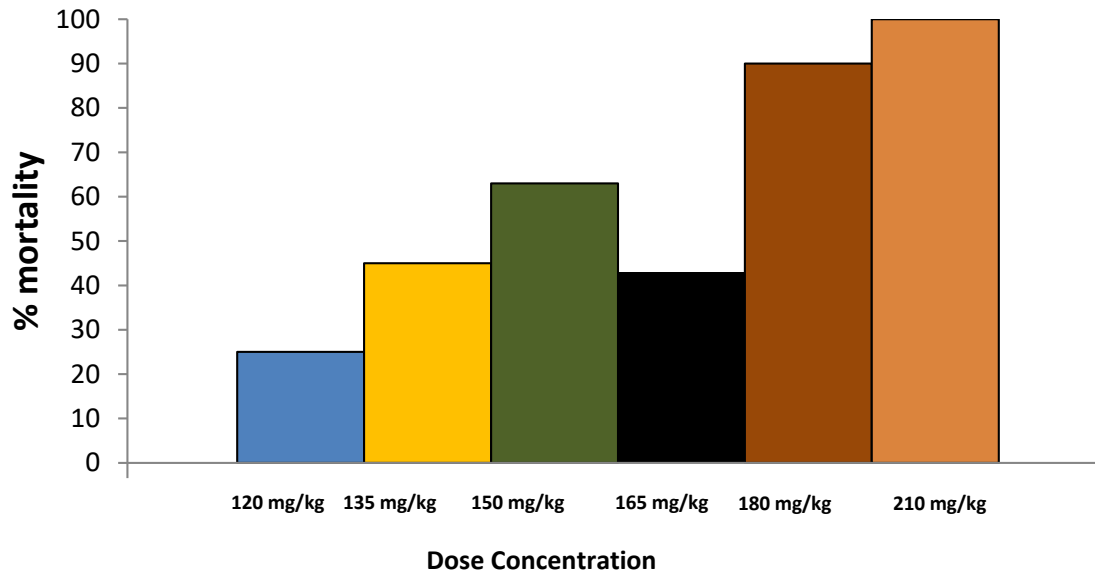
- Used as a food preservative
- Antidote
 - Cyanide poisoning
- Humans more tolerant than pigs
- Methemoglobin former
- Reacts with air and water



Secondary Poisoning Risk

- Nitrite plasma half-life is between 29 and 62 minutes
 - Thigh muscle, liver, small intestine and stomach samples were assessed at day 1, 3, 5, and 7 post-death
 - Nitrite residue in thigh, eye, liver and small intestine were less than 100 mg/kg
 - Only scavengers that consume stomach contents may be at risk and will be evaluated

Sodium Nitrite Effects on Feral Pigs



Effect of Sex and Body Weight on Sodium Nitrite Gavage Outcome in Feral Pigs¹

	<u>Expiring</u>		<u>Non-Expiring</u>	
Sex	Male	Female	Male	Female
Percent	69%	52%	31%	48%
Average body weight (lb)	55	79	86	49
Weight range (lb)	33 - 108	37 - 121	49 - 185	29 - 99

¹ Across all sodium nitrite concentrations (120 mg/kg, 135 mg/kg, 150 mg/kg, 165 mg/kg and 180 mg/kg).

LD₉₀ Determination

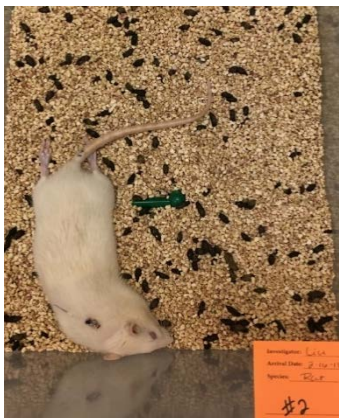
- Based on probit analysis LD₉₀ is 188 mg/kg
- Will be utilized on bait development
 - Currently we are working with a bait containing 8 g of sodium nitrite (can be doubled)
 - Would be capable of delivering enough sodium nitrite to kill a 97 lb pig if only one bait is consumed



Encapsulation

- Our encapsulated SN was held in gastric fluid but released in intestinal fluid
- In laboratory testing the release is rapid, which has the potential to deliver a lethal dose to the hog
- In field trials, marginal success was achieved
- Adjustments to the encapsulation protocol are being evaluated
- More encapsulating ingredients are also being assessed
- Incorporation of encapsulated salt into the bait will be evaluated





Rats

Stability of NaNO_2



Rat No.	Storage Time (d)	Survival time after administration	Conclusion
1	10	Severe poisoning occurred but the rat kept alive in 3 h.	A substantial part of NaNO_2 was stable after being stored with fish and DD water for 10 days.
2	10	91 min	
13	10	68 min	
5	10	Severe poisoning occurred but both rats kept alive in 3 h.	Results of UV measurements showed NaNO_2 was stable after being stored with DD water for 10 days.
6			
7	30	81 min	NaNO_2 kept stable after stored with DD water for 30 days.

(Liu, personal communication)

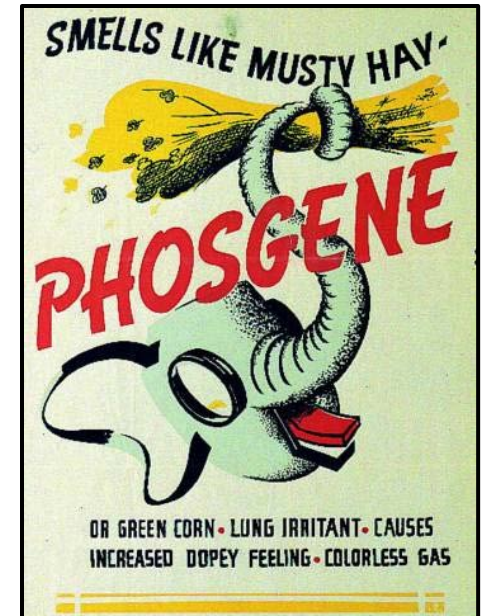
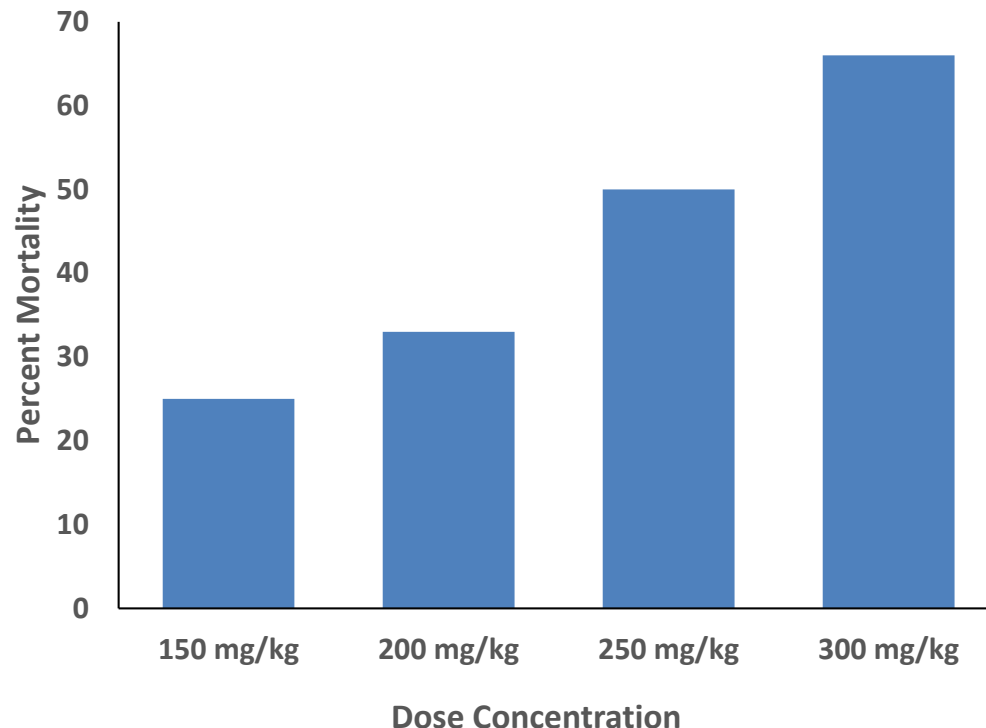
pH May Be the Key to NaNO_2 Degradation

- It appears that nitrite may be sensitive to mildly acidic conditions
- Is stable in neutral to mildly basic pH
- Moisture and CO_2 forming carbonic acid
- One ingredient in our bait matrix results in final pH of 5.5
- Buffer has been added to protocol resolving the problem

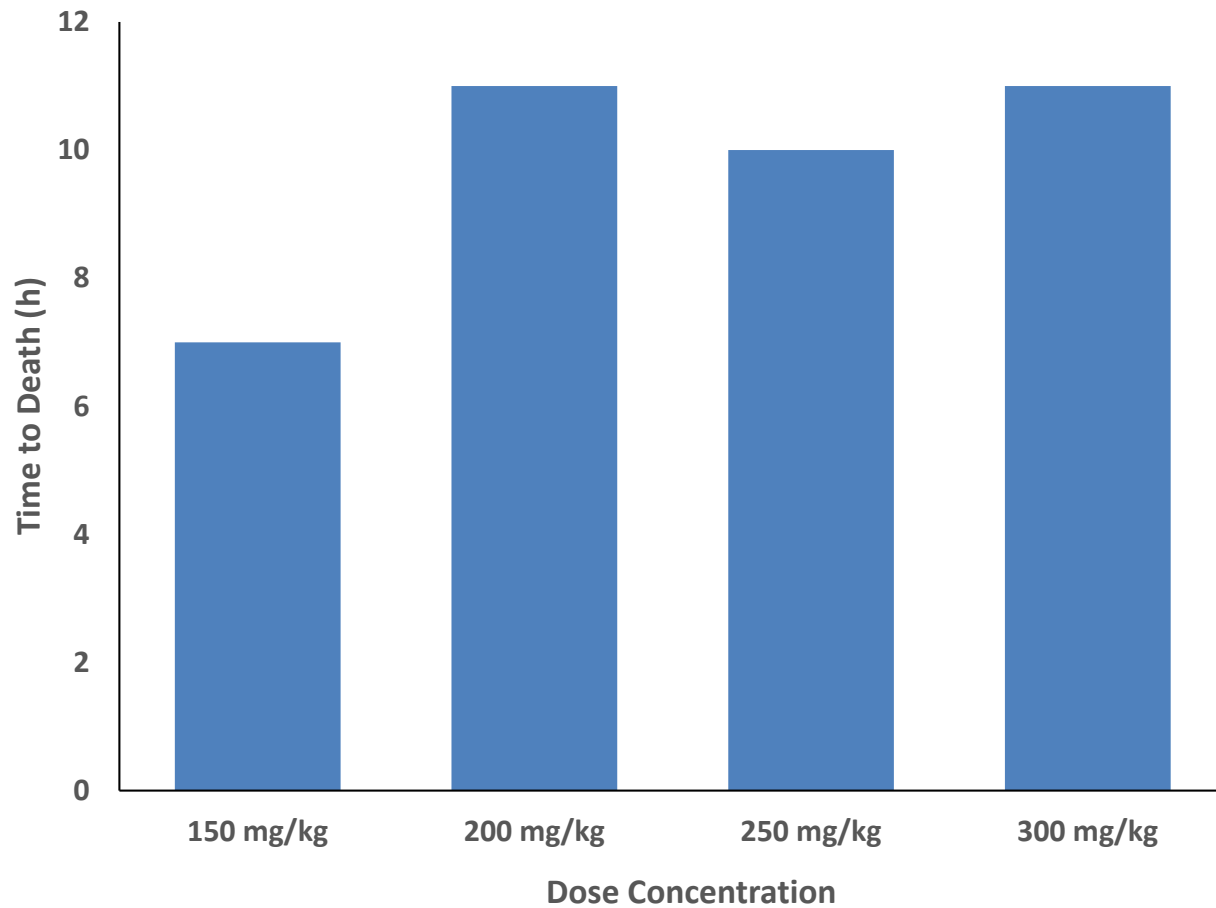


Effect of an Zinc Phosphide Concentration on Mortality Rate in Feral Pigs

- Utilized for other nuisance species
- Based on chemical properties, may not need encapsulation
- May be easier to label for feral pigs
- Low chance of secondary poisoning



Effect of an Zinc Phosphide Concentration on Time to Death in Feral Pigs



Preference Studies



- Fruity Flavors
- Whole Corn
- Flavored Corn
- Fish
- Earth Worms
- Acorns
- Taste Masking Compounds

Preference Trails to Date

Bait 1	Bait 2	Preference
Artificial Bait –Sweet Corn	Artificial Bait – Salty Corn	No Preference (NP)
Whole Shelled Corn (WSC)	White Oak Acorns	WSC
WSC	Artificial Bait - Popcorn	WSC
WSC	Fresh Strawberry	WSC
WSC	Marshmallows	WSC
WSC	Peanut Butter	WSC
WSC	Grape Jelly	WSC
WSC	WSC + Maple Syrup	WSC
WSC	Fish (Fresh Bass)	NP
WSC	Fish Meal	WSC

Preference Studies



Pigs preferred dehydrated bass to WSC ($P < 0.029$)

Preference Trails to Date

Bait 1	Bait 2	Preference
WSC	Dehydrated Bass	Dehydrated Bass
WSC	Dehydrated Pogie	Dehydrated Pogie
WSC	Dehydrated Big Head Carp	Dehydrated Big Head Carp
WSC	Artificial Bait - Dehy Pogie	Artificial Bait – Dehy Pogie

Everybody eats pogies

Industry is close to perfect fishery

Jerald Horst

September 04, 2013 at 9:00 am | [Mobile Reader](#) | [Print](#)

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About 1.1 billion pounds of menhaden, aka pogies, are taken from the Gulf of Mexico every year.

Jerald Horst

Yes, everybody eats pogies; They just don't know it.

The sea is a funny place. On land, planting-eating species (herbivores) vastly outnumber meat-eaters (carnivores). That's because it takes 10 pounds of herbivore flesh to produce 1 pound of carnivore.

In the sea, it seems like every fish eats another fish — they are all carnivores. Or almost all. At the bottom of the fish food chain sits the menhaden, commonly called

the pogie. Almost every fish that we humans love to catch and eat in turn eats pogies, so we humans are essentially eating “re-manufactured pogies.”



Delivery System



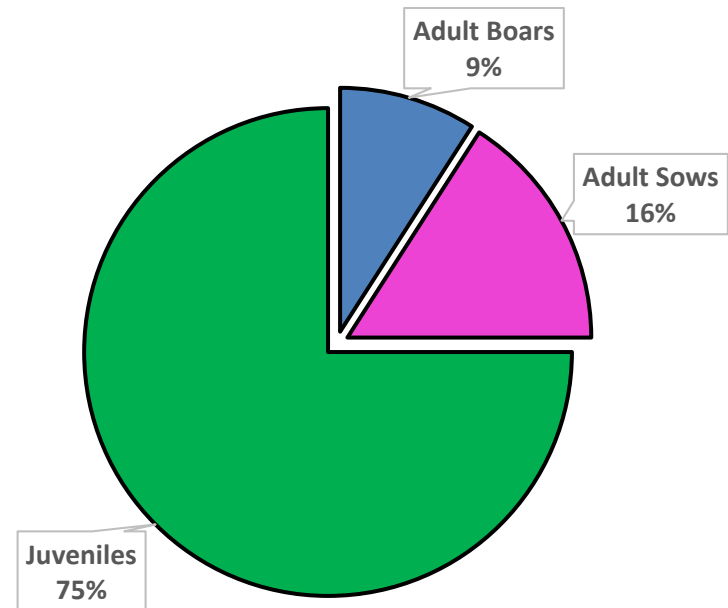
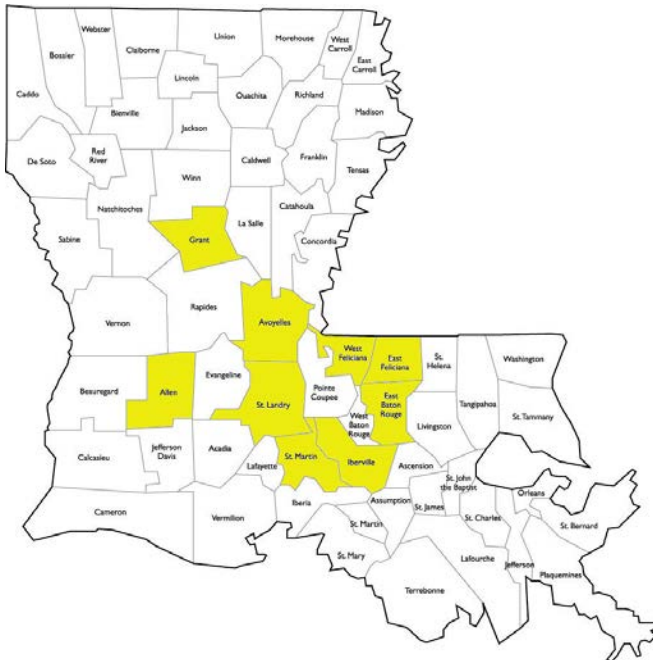
HAM System Prototype October 2016

Bob R Jones Idlewild Research Station



Trap Loaner Program Impact

- Total of 66 stakeholders
- A total of 440 pigs removed from landscape
- A 59% success rate (39 captures)
- Successful captures average 11 pigs caught
- Average of 6.7 pigs captured per trap deployment



Collaborators

- Matt Capelle – Bob R Jones Idlewild Research Station
- Tyler Woodard – Bob R Jones Idlewild Research Station
- Ariel Bourgoyne – Bob R Jones Idlewild Research Station
- Dearl Sanders – Bob R Jones Idlewild Research Station
- Randy Price – Dean Lee Research Station
- Zhijun Liu – School of Renewable Resources
- Jim LaCour – LDWF
- John Pojman – LSU Department of Chemistry
- Baylen Thompson – LSU Department of Chemistry

Other Updates

- EPA Experimental Use Permit was issued to Genesis Labs for warfarin (0.005% and 0.01%)
- After 30-d exposure efficacy on a 5 km treatment plot baited with 0.005% warfarin was 100%, 98.6% and 97.8% for radio-tracking, trail camera images and bait consumption.
- The 0.01% treatment was not effective.



Kaput Feral Hog Bait, Page 1 of 5
Final Label 01.03.17

Kaput® FERAL HOG BAIT

Active Ingredient: Warfarin (CAS Number 81-81-2) 0.005%
Other Ingredients 99.995%
Total 100.000%

Keep Out of Reach of Children
CAUTION
See back [side] panel for First Aid and Precautionary Statements.

EPA Reg. No. 72500-...
EPA Est. 72500-CO-1

Net Wt. ___ lbs
(25 to 100 lbs)
[[11.34 to 45.36 kg]]

(Back [Side] Panel)

FIRST AID	
If Swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If in Eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.

TREATMENT FOR PET POISONING

If animal eats bait, call veterinarian at once.

NOTE TO PHYSICIAN OR VETERINARIAN

Contains Warfarin, an anticoagulant. If swallowed, this material may reduce the clotting ability of the blood and cause bleeding. For humans or animals that have ingested this product and/or have obvious poisoning symptoms (bleeding or prolonged prothrombin times), give Vitamin K₁ intramuscularly or orally. Have the product container or label with you when calling a poison control center or doctor for treatment. You may also contact the National Poison Information Center at 1-800-858-7378 for emergency medical treatment information.

ACCEPTED
01/03/2017

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 72500-26

(Poche et al., 2016)

Other Updates

- A SN encapsulated bait
- Matrix is a peanut butter paste
- A 90% knock-down has been shown in research pens
- Development of delivery system is required

(Staples et al., 2016)





Please fill our survey at https://lsu.qualtrics.com/jfe/form/SV_3RcPIY0XRQR3FY1