

David Brittain of Kiwicare Corporation Ltd  
Sanctuaries Workshop 2008, Bushy Park

# The use of cholecalciferol long-life gel baits for the control of rodents

**KIWICARE®**

# **NO** Possums Cholecalciferol Gel

- Firm gel in margarine container
  - No need to handle bait
  - Easy to carry
  - Lid for recovery and re-use
  - Little or no spillage
- 150g, 250g and 500g
- 3 year shelf life
- 26 month field life



# Why cholecalciferol?

- Specificity
  - High toxicity to possums and rodents (LD50 possum 16.8mg/kg, rodents ~43mg/kg)
- Environmentally safer
  - Lower toxicity to birds, fish and invertebrates (LD50 duck 2000mg/kg)
  - Low risk of secondary poisoning
  - Low eco-toxicity
- No license required
- Public perception – Vitamin D3 not 1080

# Development

- Developed in conjunction with
  - Animal Health Board
  - Landcare Research
  - DoC
- Kiwicare developed the gel matrix over several years and AHB has funded research carried out by Dr Dave Morgan at Landcare Research



# Development history

---

- Released for sale in 2007
- Not tested on rodents but chole known to be a good rodent toxin
- Reports of high level of rodent bait take
- NO Possums used for control of possums with additional benefit of rodent control
- Decision to carry out registration trial on rodents with DoC Northland

# Trounson Kuari Park

- 30 mins north of Dargaville
- ~450ha of native bush including some very fine kauri specimens
- Existing bait lines
  - Philproof stations at 50m intervals
  - Lines 100m apart
  - i.e. 2/ha
- Rodent control usually requires 50mx50m or 100mx25m

# Trial

- It was hoped that the long life of the bait would give rodents a better chance of encountering palatable bait and so the wide spacing of stations was acceptable
- Baits fit small and large Philproof stations





# Trial

- Baits fitted neatly at rear of station so that possum interference was largely excluded
- Possum control carried out prior to trial to reduce risk of possum interference





# Pre-treatment levels

- Pre-treatment monitoring using tracking tunnels
- Carried out 3<sup>rd</sup>/4<sup>th</sup> June in marginal weather
- Treatment block
  - 55% Rats
  - 60% Mice
- Control block
  - 37% Rats
  - 24% Mice

# Pre-feeding

- Early July 08
  - 150g prefeed gels were placed in 940 bait stations
  - Very poor weather- heavy rain for all three days
- Late July 08
  - Report from Mark Leach DoC that many baits had been completely eaten by rodents
  - After consideration it was decided to supply 600 extra baits to replace and continue pre-feeding
- Mid Aug 08
  - All pre-feed replaced by 250g toxic bait

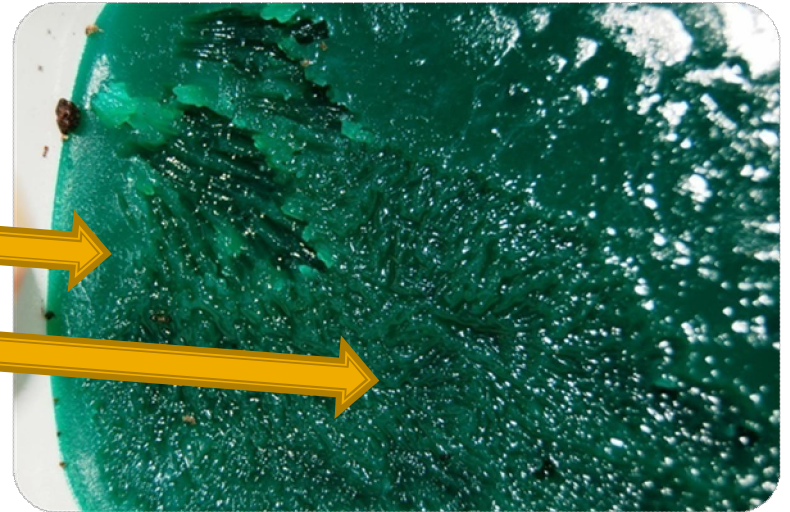
# Bait take

- A selection of lines were checked early September 08
- Take at 90% of stations
- ~30g bait taken per station
- 1<sup>st</sup> monitor delayed due to staff illness
- Carried out 15<sup>th</sup>/16<sup>th</sup> Sept



# Rats vs mice

- Possum, rat and mouse take easily distinguished in gel
- Rats
- Mice
- Most bait take by rats
- Few with both rat and mouse take
- Mouse numbers often climb after rat control



# 1<sup>st</sup> Post-treatment monitor (preliminary)

---

- Monitor carried out 15<sup>th</sup>/16<sup>th</sup> Sept
- Fine weather
- 16% Rats – 75% reduction
- 12% Mice – 80% reduction
- Control block results yet to come in

# Continued monitoring

- NO Possums is a long life bait
- ~220g of bait remains in each station
- No need to replace bait
- Monitoring will continue on monthly basis
- It is hoped that rodent numbers will continue to fall
- And mouse numbers will not rise in response to removal of rats



# Multi-species control

- Presenting NO Possums bait to possums and rodents
- Re-introduction of tui to Banks Peninsula
- 100ha rodent and possum control
- Additional evidence
- New station – assess access by possums and rodents

# MkII Bait station

- Robust design
- Protects gel
- Bright colour to attract possum interest
- Simple to:
  - Fill/empty
  - Carry
  - Fix and move
- Gel lid fits behind gel



# Use

- Station placement
  - Vertical
  - Tree or post
  - Facing away from prevailing weather
  - Where no risk of dogs, weka or other non-target animals accessing bait set at ~300mm above ground or lower to allow rodents easy access



# Savings

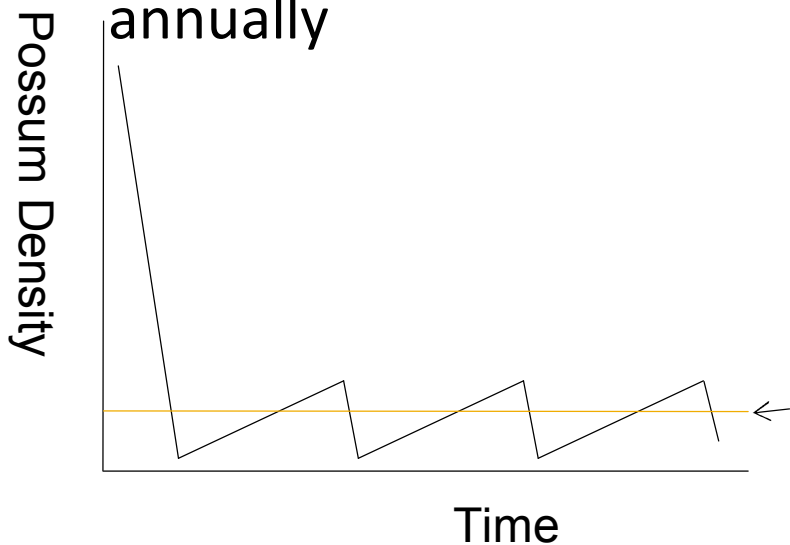
---

- Labour costs
  - Baits unlikely to require replacement due to deterioration
- Material costs
  - Less waste
  - Re-usable
- Continuous control
  - Extending period between major operations

# Cost benefits

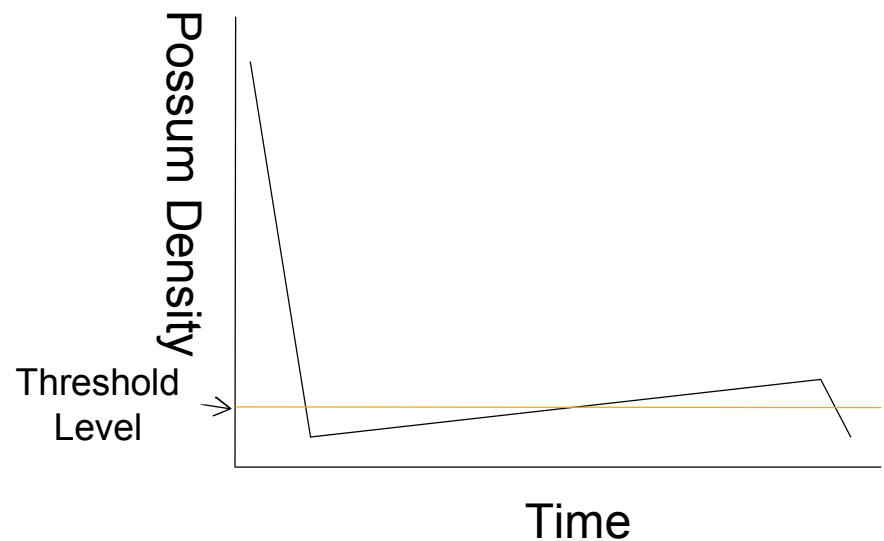
## USUAL SCENARIO

- Series of knockdowns as possum/rodent populations rise above a set threshold perhaps annually



## LONG LIFE BAIT

- Continuous control reduces rate of increase of possum/rodents - extending time between operations



# Thanks

---

- Thanks are extended to
  - Pete Davis DoC
  - Mark Leach and team at Trounson Park, DoC
  - Martin Carson, Chief Chemist, Kiwicare for helping set pre-feed in truly foul weather.

For their help and feedback.



Now its time for a .....

