



Landcare Research
Manaaki Whenua

Modifying the Victor rat trap to effectively kill stoats & ship rats

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Background...1

- Why modify the Victor rat trap to kill stoats consistently?
 - Cheap \$8/trap vs \$63/trap DOC200
 - Lightweight
 - Small size & cheapness opens up the option of multiple sets at single sites

Tested on ship rats as well because they are the main non-target species



Background...2

- NAWAC test of modified Victor rat trap (design approved in Canada) in 2002
 - Modified trigger
 - Shroud

FAILED (3/10 stoats survived)

- NZ stoats larger than Canadian stoats (largest 450g vs 206g)
- Insufficient impact momentum



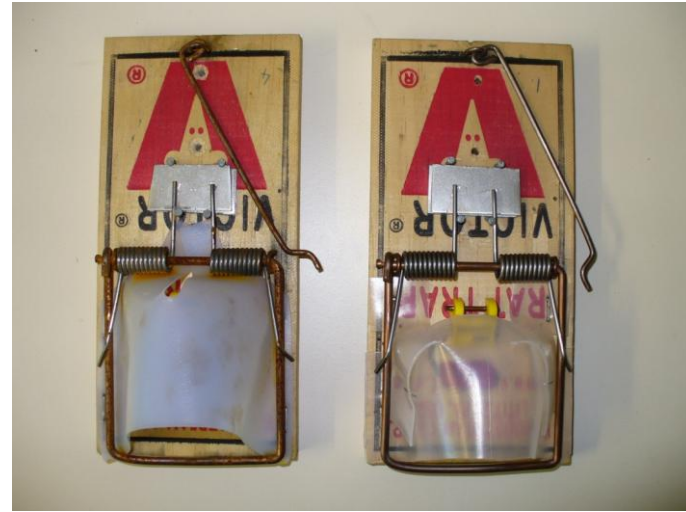
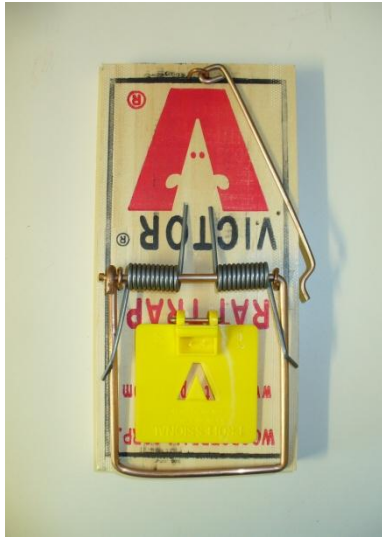
Background...3

- NAWAC trap testing guideline 09
- <http://www.biosecurity.govt.nz/animal-welfare/nawac/policies/guideline09.htm>
- To pass the guideline requires a trap to render 10/10 animals irreversibly unconscious within 3 minutes





Modification of the trap



- Increased spring tension
- Shroud added to ensure consistent strike across the head
- Treadle trigger changed to a pull trigger



Sets

- Vertical
 - Trap attached 18-20 cm above the ground (stoats able to reach up into trap with feet still on the ground; rats climbed up)
- Horizontal
 - Trap in corflute tunnel
 - Excludes non-targets





VICTOR

10/21/11

GV-1248 Camera 6
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Results: stoats vertical set

Weight (g)	Sex	Palpebral reflex	Heart stop	Strike location
273	M	< 1m 10s	3m 36s	dorsal strike across ears
338	M	< 1m	5m 23s	dorsal strike across ears
285	M	< 1m 1s	3m 30s	dorsal strike across ears
205	F	< 44s	3m 44s	dorsal strike across ears
224	F	< 1m	3m 35s	dorsal strike across ears
242	F	< 38s	3m 7s	dorsal strike across ears
323	M	< 25s	3m 40s	dorsal strike across ears
363	M	< 27s	4m 15s	dorsal strike across ears
285	M	< 40s	3m 5s	dorsal strike across ears
317	M	< 23s	4m 5s	dorsal strike across ears

Results: stoats horizontal set

Weight (g)	Sex	Palpebral reflex	Heart stop	Strike location
309	F	< 40s	3m 58s	dorsal strike across ears
227	F	< 45s	5m 39s	dorsal strike posterior to ears
204	F	< 48s	4m 15s	dorsal strike posterior to ears
356	M	< 52s	14m 55s	dorsal strike across ears
206	F	< 48s	2m 57s	dorsal strike across ears
308	M	< 46s	18m 52s	dorsal strike across ears
181	F	< 56s	3m 33s	dorsal strike across ears
192	F	< 32s	2m 48s	dorsal strike posterior to ears
301	M	< 47s	2m 59s	dorsal strike across ears
256	M	< 51s	3m 3s	dorsal strike posterior to ears



GV-1248 Camera 4
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Results: rats vertical set

Weight (g)	Sex	Palpebral reflex	Heart stop	Strike location
101	M	< 1m 20s	3m 16s	neck
98	F	< 1m 12s	2m 14s	neck
110	F	< 1m 42s	1m 42s	dorsal strike across ears
109	M	< 1m 25s	1m 37s	neck
120	F	< 49s	2m 6s	dorsal strike across ears
151	F	< 45s	3m 10s	dorsal strike across ears
151	F	< 48s	2m 10s	dorsal strike across ears
137	F	< 32s	2m 39s	dorsal strike across ears
151	M	< 31s	2m 2s	dorsal strike across ears
114	F	< 28s	4m 5s	dorsal strike across ears

Results: rats horizontal set

Weight (g)	Sex	Palpebral reflex	Heart stop	Strike location
140	F	< 31s	2m 30s	anterior to the ears
106	F	< 34s	2m 46s	anterior to the ears
154	M	< 35s	3m 20s	anterior to the ears
136	F	< 26s	2m 48s	anterior to the ears
179	M	< 36s	3m 32s	anterior to the ears
137	M	< 34s	3m 17s	anterior to the ears
175	M	< 28s	2m 37s	anterior to the ears
162	M	< 37s	2m 24s	anterior to the ears
166	F	< 46s	2m 28s	anterior to the ears
107	F	< 41s	2m 17s	anterior to the ears

Next steps

- Publish findings
- Talk to trap supplier about producing the modifications commercially
- Field test – compare with self-resetting trap
- Development of a long life bait



Acknowledgements

- Thanks to Jane Arrow & Sam Brown who spent many freezing nights helping with the pen testing
- Thanks to the Ministry of Science and Innovation for funding

