

Changes to the palatability & efficacy of aerial possum control bait over one year of storage.



Animal Control Products Ltd (ACP) frequently engages independent research agencies to test the palatability of its pellet baits to captive wild-caught possums. Pellet baits contain biological components which are grown, harvested and stored under variable conditions by number of primary producers. ACP limits the extent of this variation by ensuring that all bait components meet pre-determined quality specifications and are sourced only from trusted suppliers.

Test results to date have shown that by working within these specifications, there have been no significant changes to the palatability of freshly made bait. Control agencies and operators can therefore be assured that ACP's bait meets the necessary palatability standards, all year round and from year to year.

Under the new regulatory and compliance framework however, operational delays affecting aerial 1080 bait applications are not uncommon. As a consequence, bait is sometimes stored for several months before being used. This raises the question of how

long bait may be kept in storage before bait palatability declines to a level where efficacy may be affected.

With a view to answering this question objectively, in early 2011 ACP commissioned Landcare Research Ltd of Lincoln, to undertake a palatability and efficacy study involving six trial phases and using both RS5 and No.7 toxic and non-toxic baits stored at ambient temperature for up to 13 months.

RS5 and No.7 pellets manufactured in January 2011 were separately presented over the six trial phases carried out at intervals of 1, 3, 5, 7, 10 and 13 months; to a total of 12 groups of 10 individually caged possums.

These possums had a choice, throughout the trial, of eating or refusing baits. They were fed their normal maintenance diet of apples and cereal and were thus not compelled to eat the baits.

***** A TOUGH TEST *****

This was a tough test for the No.7 and RS5 pellet baits.

The cage environment did not provide the same necessity or inducement for possums to eat artificial baits compared with wild free-ranging possums which:

- **are often food-stressed and therefore are more likely to eat baits,**
- **suffer adverse environmental conditions which increases their energy demands,**
- **must burn energy foraging, which in turn increases their food intake needs,**
- **face competition from other individuals under a social hierarchy which can elevate food-stress, thereby further increasing bait acceptance in wild populations.**

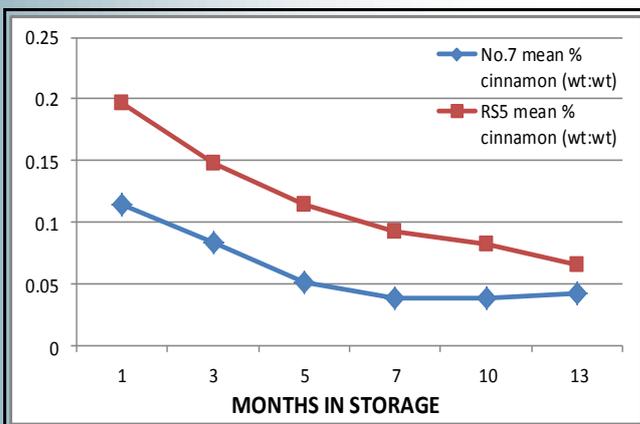
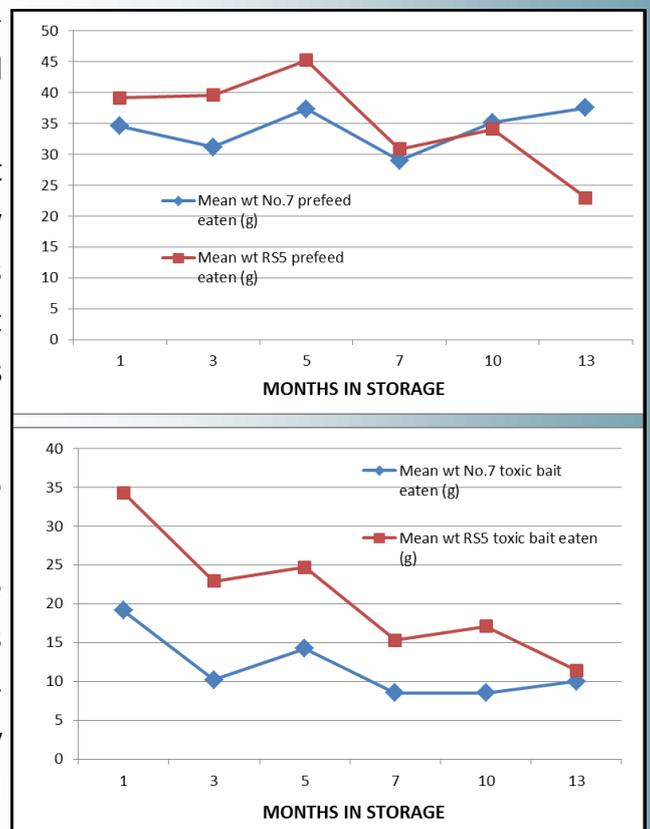
Results overleaf....

Trial Results

The trial results showed no statistically significant change in the quantity of pre-feed bait eaten over 3 nights, over the six trial phases. The mean weight of non-toxic bait consumed per possum was approximately 35 grams per possum, per phase. This demonstrated that there was no significant change to the palatability of non-toxic baits over the 13 month trial period.

There was a measurable decline in the mean weight of toxic bait eaten (approx. a 50% decline for both pellet types over the trial duration) but sufficient toxic bait was consumed at all phases to ensure that efficacy was not affected — with 100% efficacy recorded for RS5 bait at 10 months and 90% for No.7 bait at 13 months.

The decline in toxic bait consumption appears to correlate with the decline in cinnamon lure content for both the RS5 toxic and No.7 toxic pellets. While the toxic loading of the baits remained constant throughout the trial period, their cinnamon content fell to 50% of the original loading after 5 months and to 40% after 10 months in storage. These data support the findings of previous studies which concluded that cinnamon is important as a means for masking 1080 in pellet baits. The higher cinnamon content of RS5 pellets throughout the trial may also account for the higher consumption of toxic RS5 pellets compared with the quantity of toxic No.7 pellets consumed. Based on these findings, double cinnamon luring of toxic 1080 bait for possum control is strongly recommended by ACP.



While ACP cannot provide guarantees on the longevity or suitability of baits stored under a variety of differing conditions, locations and climates, this trial demonstrated that both RS5 and No.7 pellet baits stored for up to 1 year in a suitable storage environment, may be used confidently to meet operational objectives.

ACP maintains the view that the long term storage of baits should be avoided where possible, in accordance with best practice pest control principles and in line with a sound risk minimisation strategy.

For more information, please contact:
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