newsletter

acta

31 AUTUMN 2012

In this 31st edition of the ACTA Newsletter, we are focussing on outcomes of two recent evaluations of PIGOUT® for feral pig management in subalpine and wet sclerophyll forest in the ACT and in Victoria. Not only are the results positive but the two studies illustrate the emerging threat of feral pigs in the southern areas of Australia, where for many years governments and landholders have held the view that ***'there is not much of a pig problem here"***.

The same complacency applies to emerging threats of imported snail species in some prime cropping areas of SE Western Australia. I am reminded of the old adage of the frog failing to leave a pot of slowly heating water at the earliest opportunity. **The message is that the pests are still spreading and increasing their range and that a national approach is needed**.

Cane toads and Tilapia fish spreading south and west, and foxes heading to the tropics and northern WA are further examples of the pest problems not being static!

One good response to these threats is the successful bid to extend the life of the Invasive Animals Cooperative Research Centre. (IA-CRC)

Maintaining support for the IA-CRC is probably one of the most enlightened things that the Federal Government has done in the pest management landscape. This group, made up of some 40 government departments, universities, overseas collaborators and a small group of industry participants, including ACTA, has really started to increase pest management options and raised understanding of pests. New products like PIGOUT® would not have been possible without teamwork and the same applies to the new wild dog/ fox poison PAPP (see last newsletter) and the potential use of sodium nitrite (a well understood food preservative) in large doses to selectively and humanely control feral pigs.

IMPORTANT: *Between 30th January 2012 and 1st May 2012 the CRC is running a PestSmart "Roadshow" of these new technologies with open meetings in regional sites throughout Australia. We are rushing this newsletter out early in 2012 to encourage agronomists, and all interested, to attend these free workshops to hear from some of Australia's leading experts in a wide ranging technical program. This is an opportunity not to be missed (see detailed program on pages 4 and 5).*

Apart from Pindone (RABBAIT®), DenCoFume® den fumigation and RCV (calicivirus) there have not been many entirely new options for pest management for some time. The CRC team deserved to be funded to enable its good work to continue.

Sadly, we note that we have also seen over the last year a return to some old and potentially dangerous means for pest control. Grain growers were encouraged by some professionals to use insecticides such as Endosulphan or Omethoate (LeMat) to try to make 'back yard' mouse bait. Many were desperate, as registered bait was in short supply last year in a 1-in-50 year mouse plague. Sterilised grain used to make MOUSEOFF® was in short supply due to limitations in the gamma irradiation plants. While we understand the desperate resort to use illegal chemicals to save crops, we also know that some landowners were injured and many experienced very poor control of mice as these chemicals are not designed for this purpose. Worst still Australia's ability to defend it's wheat and other cereals against international competition is damaged more than many landowners realise by such actions if insecticides appear in export crops. A loss of credibility could do a lot more damage over a longer time than a few million mice!

Continued from Page 1

Sadly, neither the APVMA nor politically prominent grains industry leaders did much to prevent this approach. Similarly, we have seen a return to bounties as a way of stimulating action on some vertebrate pests. A Bureau of Resource Sciences review of bounties some years ago rightly condemned the approach as ultimately ineffective and open to rorting and distortions. It is an expensive way to sample pest populations and sends the wrong signals when a value or price is put on a pest scalp. Don't get me wrong here, shooting of pests such as wild dogs and foxes is highly desirable and should be encouraged. I do it myself, to the limit of my mediocre marksmanship. I just wish those politicians pandering to rural voting groups could think outside the square to find a more balanced way to stimulate action to control pest animals. If shooting is to be encouraged, then perhaps subsidies on ammunition, support of responsible gun clubs or coordinated campaigns would achieve a better outcome. The focus on just foxes and wild dogs also seems limiting. What about feral deer, wild pigs, and overabundant donkeys and camels where shooting is the only option? What about also supporting other means of pest management like trapping and community wide baiting campaigns that are also effective?

The continued delays in application of aerial baiting, derailed due to faulty science on non-target risks for many years, and the hysterical science relating to suspected suppression of tertiary predators leading to wildlife loss from a resurgence of mesopredators (kill the dogs and see cats boom, etc) is also worrying. There are serious methodological problems with meta data analysis approach being taken by the almost devotional academics behind this mesopredator release hypothesis.

It is incumbent on the scientific community to look harder at the strengths and weaknesses of the arguments here. In this field, something that is repeated often enough, with a fancy name, becomes a fact over time regardless of the truth. We should be wary of the field being led in the wrong directions on some issues by such an approach.

We hope that our several thousand readers find this newsletter, and the sampling of examples provided, of some help in planning and implementing your own pest management programs.

Prof Linton Staples

U-tube pest animal footage

It is quite old now but we were reminded recently of a classic bit of footage showing a fox stalking then attacking a seemingly agile wallaby who underestimated the danger. The footage can be viewed by search YouTube for "fox attacks wallaby" and was apparently captured by a wildlife photographer studying birds with a camera. Some have suggested this scale of attack would be unusual but we wonder if we are still underestimating the impact on even larger wildlife and sheep from foxes.

New logistics to improve our delivery and tracking of consignments

In a recent customer QA survey of our performance, several respondents asked if we could provide advanced details of our outgoing dispatch consignments. This was especially needed during the mouse plague. While under extreme pressure, we did our best to achieve this manually to get as much bait out as quickly as possible to almost everywhere at once.

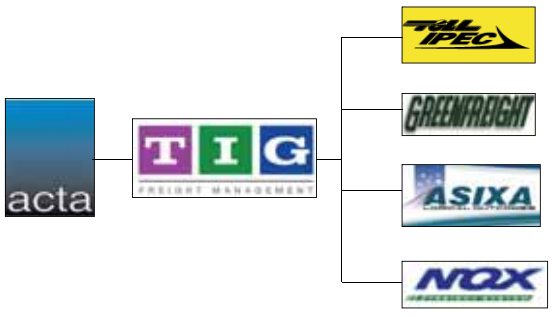
Our previous long haul carriers did not provide a track and trace facility, although an internal tracking system was used for all the small carton freight only sent via StarTrack Express (who provided excellent service for many years).

In response, specialist logistics firm TIG Freight Management have set up a combined long haul and parcel delivery system for ACTA using the combined services of Greenfreight, TOLL Ipec, ASIXA Logistics and NQX Freight. While there may be some changeover hiccups as new couriers get to know our customers, we now have the advantage of being able to provide email notifications to pre-empt most deliveries and provide a track-and-trace option for all deliveries in real time. In addition, TIG have also dedicated a specialist freight agent to follow-up and investigate any delayed, missing or damaged deliveries.

Please be patient while we establish the new system fully and let us know if there are any problems that we need to attend to.

If you would like automatic email notification of any delivery please remember to have your store email contact details on the order. We will take it from there.

ACTA New (TIG) Freight Model



Transit Times

Transit Time by Carrier

	Toll	Greenfreight
Sydney	1	1
NSW Regional	2	2
Brisbane	2	2
Toowoomba	2	2
QLD Regional	3	3
Nth QLD Regional	4	4 to 5
Melbourne	1	1
VIC Regional	1	1
Adelaide	1	1
ADE Regional	2	2
Perth	3 to 4	4

MOUSEOFF®

Zinc Phosphide Bait

Mouse bait stocks at record highs in 2012

2011 was a truly phenomenal mouse plague year. The true scale of this event astonished us all – it was without a doubt a 1 in 50 year event.

Off the back of the 2011 Autumn, some industry bodies forecast that 1,700 tonnes of bait would be required for the 2011 Spring. This announcement coincided with the expiry of on-farm/field mixing permits at the end of September. Accordingly, additional permits were issued for 350T of field-mixed unsterilised bait to be manufactured. This in spite of ACTA, and the other registrants of zinc phosphide baits, having known quantities of bait available for immediate despatch.

As the forecast appeared grim, the regulatory bodies increased the quotas at in-field mixing plants in September, even when baiting had ceased. ACTA also continued bait manufacture. We took steps to prepare for this event, but the extension to the on-farm field mixing license limits (even when registered product was available), and the existence of 7 mixing stations that, as far as we know were operating without approval, resulted in very little of ACTA stock moving, and a considerable stockpile forming at ACTA and at merchants.

Understandably, the entire merchant system was aghast at the changing of rules in an emergency. Much damage was done to confidence at every level with stocks of bait at many locations and some merchant businesses damaged by the cash flow implications. In the end we made ample product for Spring and could have made more, but with the cheap on-farm mixing option available and the increase in quotas at some of those stations late in Spring, farmers opted for the cheapest option rather than the registered, most efficacious product. This decision, without consideration of the true costs of the stockpiles that had largely protected the industry from total disaster last season, has had, and will continue to have, an enormous impact on the entire manufacturing and merchant industry.

As seasoned professionals in the mouse management game, ACTA warned of "*the mother of all mouse plagues*" back in October 2010, and observed little industry reaction, even during the devastating Victorian and Queensland floods of January 2011. When most were talking of the demise of cropping in many areas, we were upgrading our facility to make more bait, just in case. ACTA had the capacity to deliver even more bait last year but simply could not get grain sterilised fast enough despite the best efforts of the radiation plants in three states to keep up. Thus, despite 3 million hectares being saved, there was a shortfall in the supply of bait. The steralisation plants could not run only for ACTA as they had commitments for medical sterilisations, etc.

The sterilisation issues are now overcome. We hold massive sterilised grain reserves and also big stocks of finished bait and chemicals.

We have more than enough to treat a biggish mouse plague event and phenomenal capacity to manufacture more to meet the largest mouse incursion.

To meet market demand and to help clear the massive stock overrun, we are offering this to the market at 25% below normal wholesale to encourage the merchant system to hold some reserves in their warehouses.

This past season has shown some limits in the current system, which we need to address, so when the next 1 in 50 year event occurs, we are prepared.

It is imperative to build the information network, and the best means is to use those who are skilled and on the ground: the agronomists. These talented men and women recognise the indicators within their patch and can feed this up the tree. This will facilitate appropriate stores of product being in the vicinity it will be needed in.

We ask all agronomists to help farmers understand why high quality sterilised bait in full packaging and manufactured safely, costs more than just grain and chemical, so we do not suffer again from a deliberate misinformation campaign in the press as occurred last season, while we were all busy focussing on saving crops.

URGENT NOTICE

PESTSMART ROADSHOW

An opportunity to hear from and question leading experts on pest management

ACTA is a principle partner with the Invasive Animals Cooperative Research Centre (IA-CRC). The CRC was established to bring a huge team of participants together to enable NEW TECHNOLOGY not only be developed and fully registered but also fully tested with independent inputs from many participating organisations. The IA-CRC has been running for 6 years, and during this time we have seen one of the most successful team approaches to pest management ever mounted in Australia. It is impossible to list all the achievements here, but we can say with certainty that the great steps forward would not have been possible without the teamwork approach embodied by the CRC motto "Together we create and apply solutions". There is simply no way that the products themselves can fund the research needed to get new technology to market so this team approach has considerable merit for all Australian landowners and gives a great multiplier effect to industry and government seed funding. Our own commitment has been measured in millions and we have committed more than a million dollars per year in-kind to the extension of the CRC. We were proud to be invited to support the rebid process late last year for this important CRC and, with many other supporting organisations like GRDC, MLA and AWI, glad to see that the five year extension bid was successful, in a fiercely competitive bid round. It is recognised by all that it takes some time to get new innovations registered and adopted and this longer term stability of funding is vitally important.

There are several major new research findings, new technology already available or in the pipeline awaiting APVMA approval. Innovations cover rabbits, foxes, wild dogs, feral pigs and rodents.

As part of its work the present CRC team wants to bring this information directly to the rural marketplace. To this end a major seminar program called the "Pest Smart Road Show" has been organised. The intention is to bring leading experts for the major pest fields (rabbits, pigs, foxes, wild dogs, rodents) to regional centres to give the best and most up-to-date information to anyone involved with the vertebrate pest battle. The format is to have expert presentations followed by a lot of time for discussion of any topic. This is a rare and valuable opportunity for anyone involved to get a heads up on what is available now and in the pipeline from the people who are close to each field. There will be free handouts and a whole series of up-to-date fact sheets available on the days and provided free on an on-going basis for all areas via the CRC web site (www.invasiveanimals.com).

Topics will cover new developments in biocontrol (eg RCV and new knowledge on protective antibodies) , new bait dispensers for targeted pig control, new baits and new toxins for pig, fox and wild dog management, new facts on mouse movement, integrated pest management, coordinated programs on wild dogs, and the results of several recent major programs. Each talk will have an historical as well as forward-looking perspective.

We would like to encourage rural merchant agronomists to attend these road show seminars if possible. Many talks are early in the year when crops and lambing is quiet so we really do encourage participation.

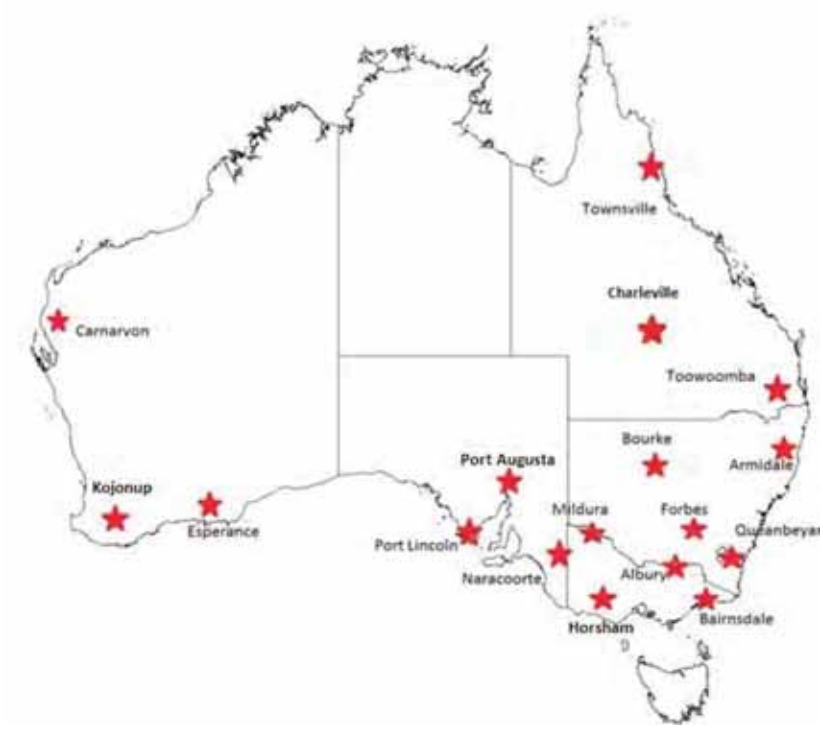
It has long been our view that pest management does not just involve government agencies and landowners. There are lot of people "in between" who can provide local service, advice, technology and logistics. The merchants have shown great strength in this in recent mouse plagues and also in some states with ethical distribution of 1080 and other pest control products to industry. We see 1000 graduate agronomists out there who can be enlisted into the war on pests to help overcome important losses to their client groups! That's 1000 more troops who are badly needed to win this war!

So please note the seminar schedule below and try to attend the one nearest to your store. There is no restriction on who can attend and we will all do our best to answer any questions throughout the day. Many landowners, local, state and federal agencies and researchers will attend but it will be a great opportunity for much wider participation and a chance to also meet the relevant local experts as well. To register your interest, please go on-line at www.pestsmart.eventbrite.com.au and select the location you wish to go to. Thankyou.

We really do encourage you to come to these free workshops as it is a rare event to have so much expert capability localised in one spot.

Date	Location	Venue
JANUARY 2012		
Monday 30th	QUEANBEYAN, NSW	Queanbeyan Conference Centre
FEBRUARY 2012		
Wednesday 1st	FORBES, NSW	Forbes Services Memorial Club
Friday 3rd	ALBURY, NSW	Albury Commercial Club
Tuesday 7th	NARACOORTE, SA	Naracoorte Town Hall
Wednesday 8th	HORSHAM, Vic	Horsham Sports and Commercial Club
Friday 10th	MILDURA, Vic	The Setts 'Acacia Room'
Tuesday 14th	PORT AUGUSTA, SA	The Barracks
Thursday 16th	PORT LINCOLN, SA	Ravendale Community Sports Centre
Monday 20th	CARNARVON, WA	Carnarvon Woolshed
Wednesday 22nd	KOJONUP, WA	Memorial / Lesser Hall
Friday 24th	ESPERANCE, WA	Esperance Civic Theatre
Tuesday 28th	BOURKE, NSW	Diggers on the Darling
MARCH 2012		
Wednesday 14th	CHARLEVILLE, QLD	Charleville Memorial RSL Club
Friday 16th	TOOWOOMBA, QLD	Highfields Cultural Centre
Tuesday 20th	ARMIDALE, NSW	Armidale Ex-Services Club
APRIL 2012		
Tuesday 17th	BAIRNSDALE, Vic	Bairnsdale RSL
MAY 2012		
Tuesday 1st	TOWNSVILLE. QLD	Townsville RSL

No Roadshows are planned for Tasmania or the Northern Territory but we will be bringing PestSmart to AgFest 2012 and attending various NT events.



Program:

Doors open at 8am for an 8.30am start (all venues). The Roadshow will showcase best practice pest management incorporating currently used techniques and the latest innovations. Information and product demonstrations will be brought to you directly by the species experts. The program will go through until 4.30-5pm and morning tea, lunch and afternoon tea will be provided.

Registration:

The PestSmart Roadshow is a free event but please register to attend for catering purposes at: http://pestsmart.eventbrite.com.au/

New products to be covered:

Wild dogs and foxes:
Para-aminopropiophenone (PAPP) baits, Blue-Healer™ antidote, M-44 ejectors and Lethal Trap Devices

Feral pigs:
PIGOUT®, PIGOUT® Econobait, HOG-GONE®, HogHopper™ and a nitrite concentrate

Rabbits:
carbon monoxide fumigator and freezedried Rabbit Haemorrhagic Disease for carrots

For foxes and cats: spray tunnel technology.

Mark the date in your calendar now. For registration and other additional information see: www.pestsmart.eventbrite.com.au

The PestSmart Roadshow is carried out in conjunction with our partners Australian Wool Innovation Ltd, Meat and Livestock Australia and the Murray-Darling Basin Authority. The PestSmart toolkit is funded under the Australian Bureau of Agricultural and Resource Economics and Sciences - For more info contact: Suzy Balogh Ph: 0418 417 943 suzy.balogh@invasiveanimals.com

Feral pigs: An increasing menace for Australian farmers and our environment

PIGOUT® Feral Pig Bait

In previous newsletters we have alerted readers to the current problems posed by feral pigs such as destruction of habitat by rooting, predation of lambs and the fact that feral pigs are significant vectors for human and animal diseases of very great significance (e.g. FMD, encephalitis, dysentry).

Many agencies around the country have recognised the risk. In recent times the rapid upsurge in pig populations, after a return to wet conditions, is causing big concern. One estimate suggests that there are more feral pigs than cattle in Australia! In favourable conditions pigs can breed like rabbits. It would be naive to suggest this is an easy problem to tackle.

We have worked with the IA-CRC to develop and register the PIGOUT® bait but even this well-tested technology requires careful free feeding to cluster roaming pigs to bait stations. Even then some pigs prefer fruit in some locations it seems. PIGOUT® contains very large amounts of 1080 which is needed to kill a pig (pigs have low and variable sensitivity to 1080, unlike foxes, rabbits or dogs). It is relatively slow to take effect and the risk to other animals is higher than for dog or fox control programs that use only tiny amounts of 1080. With the new CRC we are working, with MLA support, to investigate a new toxin that so far is showing greater effectiveness and faster knockdown.

1080 baits currently provide a main weapon for pig management.

The new poison is sodium nitrite which has been around for years as a food preservative in very low doses. It causes oxidation of the haemoglobin in blood to useless methaemoglobin so the pig dies quickly due to anoxia. Pigs are especially susceptible as they lack the protective enzyme *methaemoglobin reductase* to reconvert the methaemoglobin back to normal haemoglobin. This all sounds simple, but sodium nitrite is very unstable, so it has proven a big challenge to get it stable in the baits.

Sodium nitrite has been included in a whole new bait matrix and will be marketed as HOGGONE. We are in the final stages of field trials, and expect to submit for registration shortly.Sodium nitrite is very salty, so it is specially formulated and flavour masked so the smart and fussy pigs do not get a sense that the salty bait contains poison – yet at the same time it must be quickly released once eaten. This is a balancing act and has not been easy.

In view of the increasing interest in the pig problem and emergence of pigs in states such as Victoria, when usually they have not been a great problem (compared to NSW and Qld at least), we have reproduced the following recent reports on a couple of PIGOUT® programs. We also direct our readers to a YouTube clip showing the pig control work being undertaken in NSW in a program headed by Lisa Wellman of the local LHPA. This is typical of integrated programs running right around the country and we applaud all those trying to tackle this immense and escalating problem. For our part, with the CRC team we will continue to try to get new technology proven and available as quickly as possible.

Feral pigs pose a massive risk for stock and biodiversity so even a start is better than making no attempt. In our view the feral pig has the potential, like the rabbit, to take over large areas of Australia to render these vast areas useless for other pursuits.

Deddick River Feral Pig Control in Victoria

During 2010 and 2011 the Department of Sustainability and Environment Forest Management team received an increasing number of feral pig reports from landholders and field services staff in the Deddick and Tubbut farmland and State Forest area.

The main concerns were focussed around disturbance on freshly formed roads, with pigs coming in behind and ploughing the track network up. Also disturbance and sightings in paddocks was reported from landholders in the Deddick and Tubbut community with some ploughing of crops and disturbance around gullies.

With assistance of Good Neighbour funding for 2011/2012 the Department of Sustainability and Environment Forest Management team were able to engage field services staff from the Bendoc work centre to identify known hotspots in State Forest where pigs were active and had the potential to cause harm on private land.

Free feed PIGOUT® baits were purchased through Animal Control Technologies Pty Ltd.

Commencing in October 2011 Free Feed PIGOUT® baits were laid in clusters at known feral pig hot spots with infra-red surveillance cameras installed to see what was taking and/or attracted to the free feed PIGOUT® baits

Initial results were promising with large solitary boars and sows with sucker piglets frequenting free feed bait stations in the Deddick area.

Along with feral pigs, Samba deer, Wild Dogs, Foxes, Mountain Brushtail Possums and Eastern Grey Kangaroos were recorded investigating the free feed PIGOUT® baits.

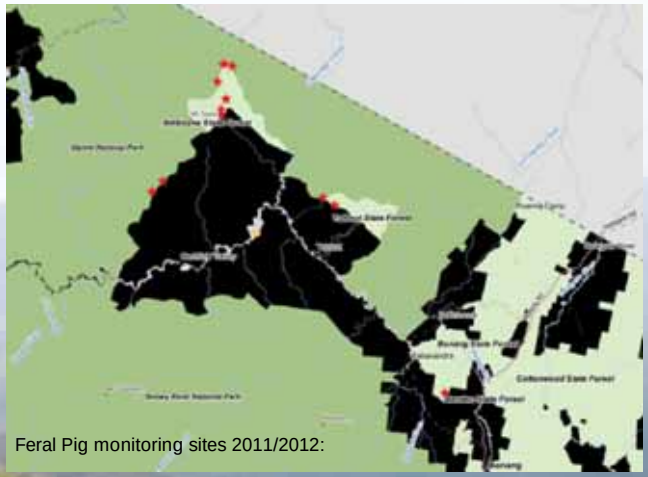
At sites in the Deddick area where feral pigs were frequenting and taking large numbers of PIGOUT® baits, HOGHOPPERS™ were installed and 1080 loaded PIGOUT® baits added along with a fermented grain and red cordial mix added as an extra attractant.

The use of PIGOUT® baits and HOGHOPPER™ have been instrumental in identifying numbers of feral pigs in areas where reports were frequent during 2010-2011, and have given Department of Sustainability and Environment staff an insight into feral pig management in remote and sometimes inaccessible terrain.

To date several large solitary boars and sows with sucker piglets at foot have been removed from this sensitive landscape thanks largely to the knowledge of local Department of Sustainability and Environment field services staff from Bendoc and the use of PIGOUT® baits and HOGHOPPER™.

The disturbance to the forest landscape has been reduced in a short amount of time with the reduction in feral pig numbers in this small isolated area.

With feral pigs being able to move rapidly over a range of environments and adapt quickly to a changed food source, it is hoped that in time this remote farming community in conjunction with Victorian and New South Wales Government Agencies, can implement a joint approach to feral pig management with the assistance of PIGOUT® baits and HOGHOPPER™ along with other control methods such as shooting and cage trapping, providing an integrated approach to the management of this new and emerging pest in Victoria, in turn providing protection to the valued farming industry and to the unique flora and fauna Victoria has to offer.



Feral Pig monitoring sites 2011/2012:

Thanks to Chris Anderson and DSE and his team for providing this feedback.

Pig control moving ahead in the ACT Namadgi Park

PIGOUT® Feral Pig Bait


Nursery swamp area at Namadgi typical of the pig habitat

We often think of feral pigs as a tropical and sub-tropical problem but this is not the case. Like the continued expansion of the fox range northwards over recent years, so we have feral pigs becoming increasingly established in temperate areas in Southern regions of Australia.

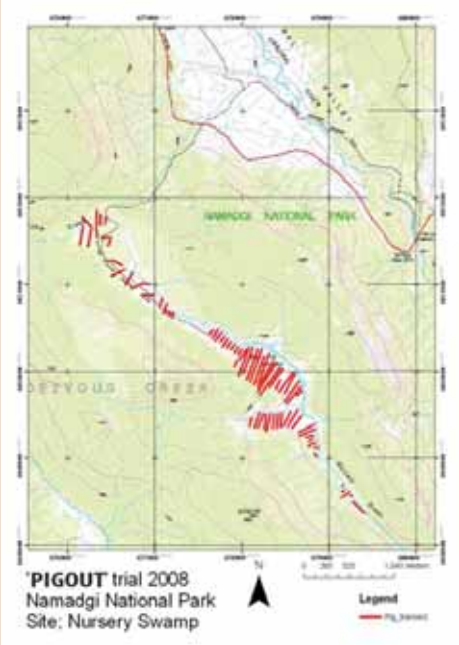
A recent program run by Don Fletcher and Trish MacDonald of ACT Department of Environment & Sustainable Development in Namadgi National Park has illustrated the potential for PIGOUT® to play a useful role in integrated pig management in a sub alpine region. Don presented a paper on his independent assessment of PIGOUT® in Namadgi and has kindly offered to allow us to convey his key findings from the AWMS conference at Bathurst in the ACTA newsletter.

His first issue was to set a criteria for success based on the estimation by Jim Hone in 2007, that population control needed to be at least 52% knockdown, if true progress was to be made in the face of the known reproductive potential of feral pigs. This gives an estimated rate of increase of 2.1 in that region.

Don and Trish used two indexes for pig activity pre-and post-baiting. One counted the % of 20m^2 sand plots with dung, and second the % of plots with fresh ripping. **Over 1000 plots were assessed per test area!** The team applied a cross-over Treatment-then-Control or Control-then-Treatment in replicated assessments in two separate areas of Namadgi. Extensive free feeding with corn then PIGOUT® Free Feed baits was used to cluster the pig mobs to the baiting stations before toxic baits were deployed.

Sites were narrow valleys. Plots were on transects (red lines) running from the creek line to base of steep slope. 3-12 plots per transect.

Diligence and hard work was needed to search more than a thousand plots for dung and diggings.



The results showed that very high levels of control were achieved with PIGOUT (see table below).

Don's study used infrared triggered cameras to get an accurate assessment of mob size and found that his field staff tended to underestimate the pig numbers when basing population assessments on scat evidence alone. This had implications for supplying sufficient baits to a bait station.

The team found that control was well above the minimum necessary to supress the population even under ideal conditions of alternative feed supply. They also noted that the use of upturned plastic boxes was highly effective in preventing non-target access to baits while providing no barrier to the pigs.

	Dung Freq.(%)	% decline in pig abundance from dung#	Rooting Freq. (%)	% decline in pig abundance from rooting#
Cotter before poisoning	1.55		6.80	
Cotter after poisoning	0.29	**81.3**	1.55	**77.1**
Orroral/Nursery before poisoning*	1.95 *		3.02 *	
Orroral/Nursery after poisoning	0.39	**80.0**	0.39	**87.1**

* recorded at first index in May # Critical value is considered to be 52%

[Note: Hog hoppers were not available at the time of Don's study but these now give an even stronger method for preventing non-target access to baits in sensitive areas.]

Acknowledgments

Don was glowing in the acknowledgement of the team required to accurately assess so many survey plots. While space is limited and we are using small font, ACTA thinks it is noteworthy for readers to see the size of the effort that is behind a study like this and also behind any truly thorough pest control program. It also illustrates to us the need for increased support for direct action to combat pests in Australia at the field and operational levels.

Don and Trish's team are listed below:

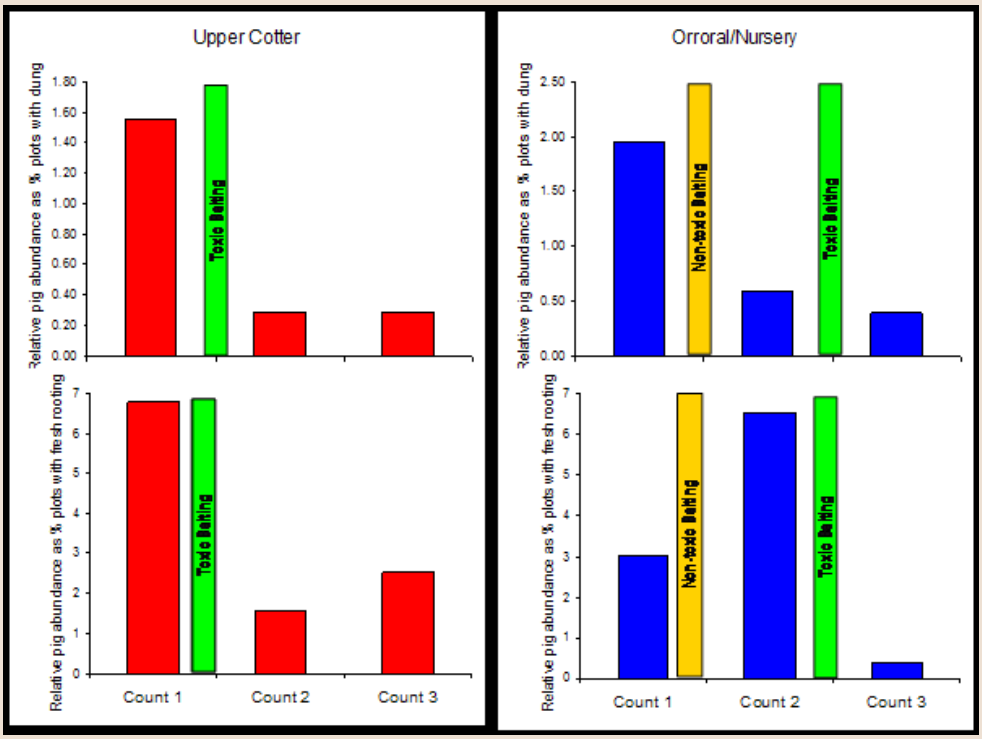
Conservation Planning and Research: A special thanks to the monitoring crew who repeatedly walked the 50 kms of plot transects through bogs, grassland and tangled regrowth forest braving temperatures from -5°C to 37°C: Mark Jekabsons, Claire Wimpenny, Greg Baines, Danny Orwin, and Lesley Ishyama, with assistance from Felicity Grant, Sarah Sharp and Geoff Kay. Greg and Danny also persevered through snow, rain and daily climbs up to Nursery Swamp to bait and camera monitor take of PigOut in July/August. Graham Hirth produced the project maps.

Namadgi National Park: Bernard Morris, Dave Whitfield and Jeremy Watson assisted in the establishment of the monitoring plots. Arthur Huxley and John Irvine established and ran the baiting program in the Upper Cotter valley. This was the 21st year that he had run this baiting program and his knowledge and experience were important in the success of this part of the research. Andrew Morrison, Mark Rodden, John McCrea and Louisa Roberts enthusiastically managed the baiting trials in the Orroral valley, and Ollie Orgill ran the May baiting program in Nursery Swamp.

Program Coordination: Nick Webb and Odile Arman assisted in establishing the monitoring plots and carried out much of the fox baiting.

Fire Management Unit: Matt Mikulandra, Dane Evans, Arron Kiewiet, Neville Ivill, Christian Ward, Mick Doherty, John Lesula, Simon Stratford, Ben Rivers and Justin Morrison assisted with establishing and checking monitoring plots.

Volunteers: Peter Hann and Wieslaw Lichacz assisted in establishing monitoring plots and Peter returned several times to assist in the monitoring program.



Feral pigs in Northern NSW

A short YouTube video on feral pigs in Northern NSW gives a realistic overview of a typical team program employing several methods.

NSW National Parks and Wildlife Service Pest Management Officer, Lisa Wellman said feral pigs caused considerable environmental damage and the service considered their control to be a high priority.

"*Feral pigs are a declared pest and have been recognised as a key threatening process to biodiversity at a national and state level because of the impact they cause from predation, habitat degradation, competition and disease transmission*," Ms Wellman said.
"*Feral pigs degrade habitat through selective feeding, trampling and rooting for underground parts of plants and invertebrates. They are particularly damaging along drainage lines, moist gullies and around swamps and lagoons or after rain, when the ground is softer,*" she said. Ms Wellman said a range of techniques are used to control feral pigs including baiting, trapping and aerial culling.

"*Feral pig control requires a co-ordinated approach. A number of stakeholders including landowners, the Livestock Health and Pest Authority, local councils, National Parks and Wildlife Service and the Catchment Management Authority have contributed to the movie*," she said.

The movie has been produced in five and 20-minute versions.

The five-minute version can be viewed on YouTube.com http://www.youtube.com/watch?v=i33xK70Tmfg.

The Best of the Best – Now in a Consumer Pack

Australia's hottest selling slug and snail bait, Delicia SLUGGOFF® Lentils will shortly be available for consumer sales.

A great additional sales opportunity for Rural Resellers, Produce and Hardware stores and plant nurseries. It will come in a unique and very attractive packaging and offers the same ***Better Performance, Better Value, Longer Lasting*** features that broadacre farmers have quickly come to know and respect.

ACTA will launch Delicia SLUGGOFF® Lentils in a 200 gram plastic bottle with a resealable shaker cap. The bright and colourful label should attract customers. It uses shrink-wrap technology with an inbuilt –Child Resistant tear off closure.

The flip top shaker cap will make sure that the slug and snail bait lentils are spread about the garden at the low but effective rates to minimise potential risk to pets.

The 200 gram pack is an ideal single use quantity for most home garden plots as just six grams of SLUGGOFF® is enough to treat 10 square metres of garden beds with about 70 individual lentil baits per square metre.

Delicia SLUGGOFF® Lentils will ship as 8 x 200 gram units per carton and come in a shelf ready 2 x 4 unit display carton with feature backboard. Brightly coloured, these shelf ready display units will give attractive appeal ensuring customers hone in on these units.

Over the past two seasons many of Australia's top canola growers have experienced the simple excellence of Delicia SLUGGOFF® Lentils. The innovative excellence of finely homogenised quality bait and a lower rate of active ingredient, coupled with the right snail-friendly shape and rain resistance have all contributed to delivering **Better Performance, Better Value** and a **Longer Lasting** product.

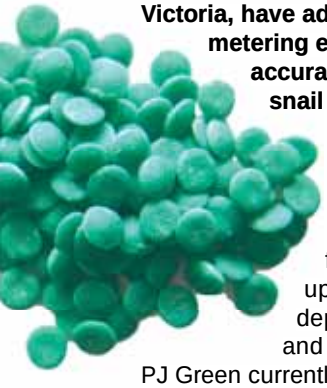
Now your garden enthusiast clients can access this professional performance product as well.

Phil Morrow

The Slugoff Shaker Cap and Display Pack

New options for large-scale treatment of slug infested crops

Manufactures of small seed sowing equipment, PJ Green Agricultural Engineering, based at Geelong in Victoria, have adapted their seed metering equipment to accurately meter slug, snail and mouse bait.



The electronic controlled metering system can meter bait from ½ Kg/Ha up to 30 Kg/Ha, depending on width and ground speed.

PJ Green currently have units fitted to large air seeder and cultivator combinations, Multi Disc and Power Harrows ranging from 2m up to 6m. Alternatively, a self-contained portable boom spray unit covering 12m can be towed behind a ute or tractor. PJ Green Kits have also been adapted to larger self-propelled boom sprays, up to 36m which will cover up to 4Ha per minute.

All of the kits use air to convey the slug bait particles to spreader plates. All units are electronically controlled from the driving position, using a ground speed input.

PJ Green engineering have worked with ACTA for many years and we can strongly recommend them to any contractor seeking to effectively deliver slug bait on a large scale with very high precision. We should also note that the uniform particle size of the SLUGGOFF® bait makes it ideal for these precision air delivery devices as there is no dust to worry about.

For further information please contact the engineers at P J Green direct at the address below as their friendly staff will be able to adapt their systems to any existing seeder set up.

Harry & Luke Green of
PJ Green Agricultural Engineering
p. 03 5243 7477 f. 03 5243 7006
m. 0428 437 477 / 0405 459 595
1 Dendle Street, Grovedale,
Victoria 3216
www.pjgreen.com.au

Slugs, snails and human diseases?

We are all aware of the damage caused by slugs and snails to horticiultural crops and to large scale grain and canola crops. Few however have given much thought to slugs and snails as potential vectors of human diseases.

A recent article has taken our attention and may indicate that we should treat slugs and snails with a little more caution. The article from the Sydney morning Herald newspaper, reported that a 21 year old Sydney man became critically ill with a rare form of meningitis after eating two slugs as part of a dare. He contracted the lungworm parasite, also known as Angiostrongylus cantonensis.

This is apparently passed to slugs from rodent droppings. It can also be caught from raw vegetables or fruit which have not been washed properly.

Doctors said the man told them he had swallowed two slugs from a Sydney garden after a dare, and had then fallen ill. He survived but only after a month in a hospital in Sydney, including some time in intensive care. The New South Wales health department said that slugs such as the giant African snail (found in Asia and on some Pacific islands) could infect humans with bacteria, viruses and parasites. The parasite was carried by snails and slugs which had eaten the faeces of infected rodents, and cases in Australia were rare, said NSW Governmemnt communicable diseases chief Jeremy McAnulty, accoding to the report.

Symptoms of the disease, which is not infectious, include headaches, a stiff neck, tingling or pain in the skin, fever, nausea, and vomiting.

Certainly washing hands after handling slugs or snails would seem to be the right precaution and avoiding eating uncooked slugs in dares is a sound move!

The take home message for the farmer with a slug and snail problem is simple:

The new shape of slug & snail control

The hi-tech formulation achieves high doses throughout the lentil and provides thin edges for even small snails to bite.

- *Delicia SLUGGOFF® Lentils: better in wet conditions than any other brand;*
- *Usually only one application is adequate (non rain fast products are often applied several times – cheap but total application rate and spread costs are very high),*
- *Delicia SLUGGOFF® Lentils are cheaper per hectare,*
- *You get great results with low application rates, meaning reduced spreading costs, and*
- *Delicia SLUGGOFF® Lentils achieve all this while adding less chemical to the environment.*

Delicia SLUGGOFF® Lentils:

Kicking goals in slug and snail management

The last 12 months has seen ACTA expand its dealings with landholders facing slug and snail issues. We have learned of the issues faced with traditional metaldehyde products. The well known problems of poor stability and large bait size of the cheap pelleted products has become a high profile issue in the recent wet seasons. Wet seasons greatly increase slug and snail survivability and egg success, resulting in a 2011 slug and snail population explosion. We are lining up a similar potential population eruption in Autumn 2012, especially if the predicted wetter-than-normal conditions arrive.

Fortunately Delicia SLUGGOFF® Lentils solves these issues:

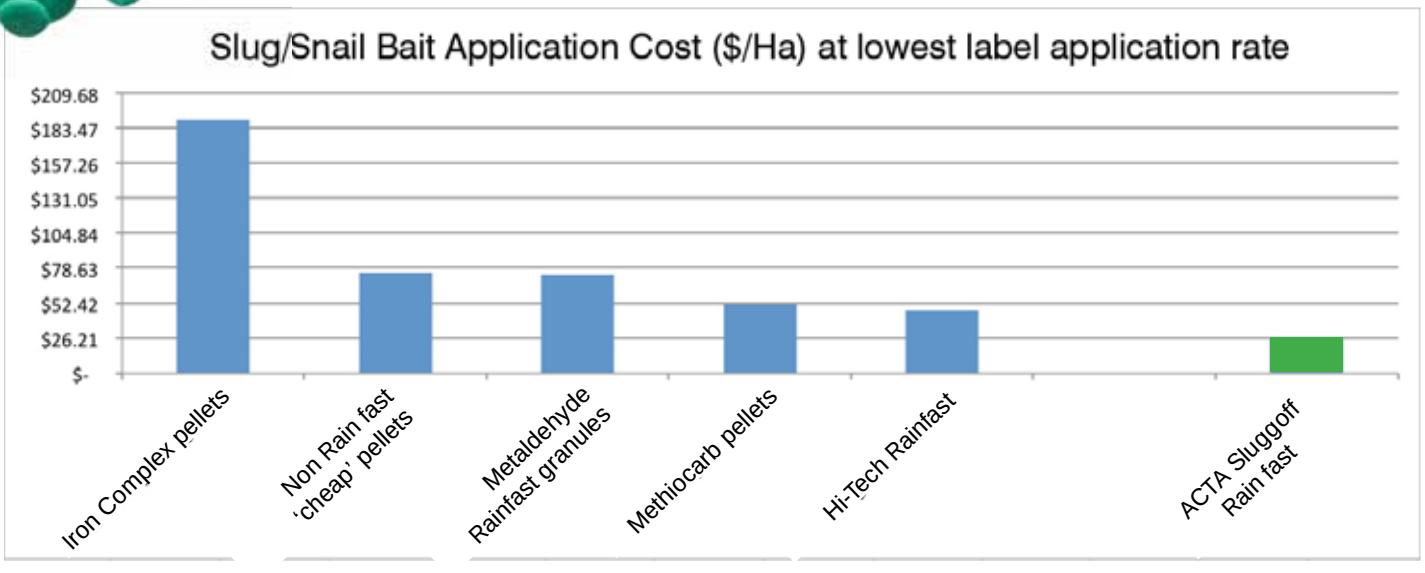
- Delicia SLUGGOFF® Lentils is brilliantly stable in moist or wet conditions,
- Delicia SLUGGOFF® Lentils are made from very high quality ingredients to maximise palatability,
- Delicia SLUGGOFF® Lentils are flat "lentil" shaped. Critically, this revolutionary conformation enables the Lentil to be easily consumed by even the smallest snails' mouth, and
- Delicia SLUGGOFF® Lentils flattened disk concept gives a great number of bait stations per kg of bait.

All these factors combine to make this the most commonly used rain-fast product throughout Europe: and destined to do the same in Australia.

This high tech product is much cheaper per hectare in comparison to the nearest competitor product, which still does not achieve the same rate of control in the long term (run at approved label rates for equivalent snail/slug species). Applied by ground, air or hand application at 3 kg/ha for broad acre and 6 kg/ha for high value horticulture, Delicia SLUGGOFF® Lentils is proven to be effective against all species of slugs and snails, at a lower application rate, using less active ingredient.

PRODUCT	Metaldehyde CONCENTRATION (g/kg)	GENERAL SNAIL CONTROL APPLICATION RATE (kg/ha)	PRICE/kg in 8-10kg pack	PRICE	kg AI/ha
Delicia SLUGGOFF® Lentils	30*	3	$11.41	$34/ha**	0.09***
Comparison 'rain fast' pellet	50	5 – 8	$11.50	$57 – 92/ha	0.25-0.5

* Twice the strength of cheap non-rainfast pellets.
** 40% cheaper/ha than the nearest comparable product.
*** 36% less chemical used – thus fewer refills of the hopper required & less metaldehyde applied to the environment.



Delicia SLUGGOFF® Lentils: The new shape of slug and snail control

Rabbit control:

Are You a First Time User ?

AUSTRALIANS have been battling environmental damage caused by rabbits for 150 years plus.

“Now, with rabbit numbers rapidly increasing again it’s time for all landholders to hit back with RABBAIT® Pindone Oat Bait,” said Phil Morrow for Animal Control Technologies (Aust) Pty Ltd. The introduced biological control measures of calicivirus and myxomatosis are now failing to keep rabbit populations down in many areas across Australia.

“RABBAIT is the proven performer as it is cheap, simple to use and highly effective,” Mr Morrow said.

“It is a “multi feed” bait with a low risk of secondary poisoning, requires no special permits or training and is made with sterilised oats so there is no threat of oat or foreign weed germination after baiting.”

For first time users, there is available a convenient RABBAIT® Small Program Pack that comes with all materials and “How To” instructions required for a successful first assault on rabbit problems. The 2.5kgs of RABBAIT® Pindone Oat Bait within these packs is sufficient to destroy about 50 or so rabbit vermin. Larger pack sizes are also available for bigger programs.

Mr Morrow said that to ensure the best results for your baiting dollar it is important to follow a few steps.

“Estimate the number of rabbits. Do this by walking or driving along a fence line or roadside (using a spotlight at night) and count the number of rabbits.”

Work out how much RABBAIT® you need; for approximately 50 rabbits, you will need 1.5 kg of bait laid per feed.

“Establish a bait trail before treating with RABBAIT,” Mr Morrow said.

“Rabbits like to investigate freshly disturbed soil, so it is beneficial to scrape a shallow furrow about 2-3 cm deep either by hand or mechanically, and get rabbits used to eating oats with a couple of generous feeds of untreated oats.

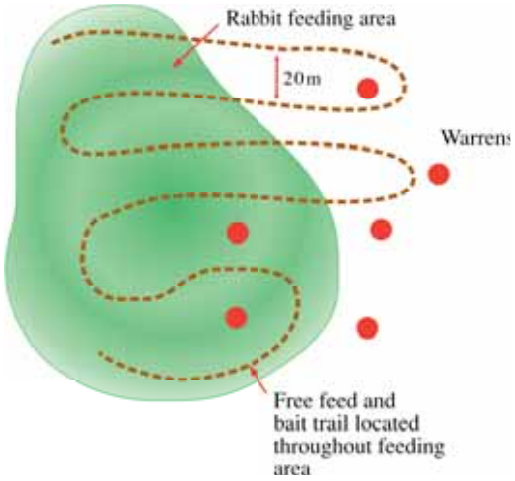
“Start this treatment of “free feeding” a few days before you treat with RABBAIT® Pindone Oat bait.

“Create your bait trails in the areas where rabbits feed, not just around warrens, and ensure enough untreated oats are used so that all rabbits are able to access the oats.”

Mr Morrow said RABBAIT® Pindone Oat Bait is a “multi feed” bait so it is imperative that three doses are applied about four days apart over a 10 to 12 day period to get the best results.

Pindone is a weak anticoagulant agent that overtime, stops the bloods’ ability to clot. Pindone is rapidly metabolised by rabbits and the multi-feeding program is needed to deplete the rabbits’ vitamin K reserves. Any reduction in baiting frequency will reduce rabbit control.

To lay the bait pour a thin stream of RABBAIT® along the prepared trail.



ACTA R&D gives important new insight into mouse management

The mouse plagues observed in Australia over the last 2 years have been a one-in-50 year event, with problems experienced over vast areas in 4 different states simultaneously. No one could have predicted the scale of the problem that the Australian farming community faced and we need to acknowledge the efforts of our 35 permanent and causal staff who worked their hearts out to meet unprecedented demands, our 30 or so supply and freight companies and the 1000 or so merchant agronomists who dealt with the local logistics of distribution of some 3000 tonnes of bait. This was the largest battle ever mounted against mice in Australia's history and some 3 million hectares of crops worth up to $1000/ha were saved. Delays in supply of MOUSEOFF® Zinc Phosphide Bait and the difficulty of ACTA knowing where the most urgent needs were localised did still frustrate many. Some crops were lost, damaged or needed to be replanted last year despite the largely successful campaign to stop as many mice as possible.

Radio tracked mouse moved 630m in 1-2 nights.

Given the remarkable effort to save crops the whole system was understandably disappointed to see the outrageous and inaccurate press that followed while some very late entrants, who did nothing to predict or help manage, promoted themselves as later day heros. That ACTA was criticised for increasing bait costs (eg H&WT headline) when we actually decreased costs and absorbed all the emergency chemical costs and labour 100%, was pretty sad. The only thing that delayed bait supplies was the capacity constraint with grain sterilisation. We have taken this high quality gamma irradiation approach to minimise the biosecurity risk of weed or disease spread. It costs a bit more than the back yard approach, but it is the best long term approach. The last thing a farmer needs is to control his mice while planting herbicide resistant weeds over his entire region!

One thing that did come out of the campaign was that some farmers needed to bait more than once to get full control. Part of this arose from the widespread use of home-made recipes by mis-using insecticide chemicals that could never work well and which raise questions about Ausralia's grain purity. Those who condoned or even promoted this practice should be investigated as it will damage the long term availability and access to these chemicals for the rightful use and could threaten export markets. Some industry leaders even thought this was a joke!

Nevertheless the need to sometimes use even high quality MOUSEOFF® twice puzzled us, since each kg of MOUSEOFF® has the theoretical power to kill more than 10,000 mice. Usually only one application of 1 kg/ha is sufficient to get >95% knockdown. So why did a small number of sites need follow-up treatment?

Using funds from bait sales and some support from the GRDC via the Invasive Animals CRC, the ACTA research team has been active in the field to get answers to this question. The data ACTA has collected over the past two years has led to some remarkable insights into the plagues that were experienced over much of the grain growing regions of Australia.

Why is control not complete at 1kg/ha in some cases?

The first thought is that there might be more than 10,000 mice present. Clearly, hole counts do tend to suggest this in some areas but the science says otherwise. Capture recapture techniques have not revealed populations much higher than 1000 mice per hectare and in most sites where we and others look the populations are 300 to 900 mice per hectare. However, last Autumn, mice were at extremely high densities >500 mice per ha over a very broad area. So they were not contained to just a few paddocks but were likely high everywhere. So the question is whether mice can move back into treated areas from the surroundings?

ACTA's research (using extensive recapture grids and also some radio tracking of individual mice) found that mice could easily move around 300m per night under these conditions. Even greater individual distances were recorded. In one extraordinary case 4 mice were found to have translocated 7km away from where they were first captured and released in the month since first being tagged. It is likely that normal spacing behaviour in mice under these conditions is not territorial so mice will all live together with a minimum of fighting, when there is plenty of food available.

ACTA consistently found that greater than 90% efficacy was achieved at 1kg/ha in crop. However, continued monitoring post baiting found new mice moving back into these areas from adjacent unbaited paddocks. Whether they are flowing down a concentration gradient, moving in to scavenge the dead mice, or drawn in by the highly palatable MOUSEOFF® bait is not known. This reinvasion can happen within a week in some cases. Since we know that mice are capable of moving at least 300m per night it is now clear that the mice "next door" would have no trouble moving into a now unoccupied area. "Next door" in this case could be an untreated refuge area, another paddock on the same farm or a neighbour with mice who does not treat. Up until now we have been thinking that the bait is so good that only the high risk paddock need be treated. Now we do need to change this thinking and consider the margins and strategies to prevent reinfiltration of baited areas.

Prior to these results we had thought it unlikely that mice would travel much more that 50 or 100 metres from their nest burrows to look for food. It now seems that they are moving from hole to hole and that they might forage over much larger distances if numbers are high and food is short, as is typical in Autumn.

This new data does mean that we need to think about buffer zones of baiting around the affected crop, of perimeter follow-up to prevent reinfiltration and of not lowering bait application rates (to say 0.5kg/ha) in high level mouse populations. At normal application rates many of the reinfiltrating mice will be moped up by residual bait that remains from the initial treatment. However, our research is also showing that this residual effect does not always hold.

Why are reinvading mice sometimes not finding residual MOUSEOFF® when they enter baited paddocks?

From previous work we know the amount required to kill a mouse is 1-2 grains and at the application rate of 1kg this should be enough to control up to 10,000 mice/ Ha if each mouse only eats a minimum lethal dose. The spread of MOUSEOFF® should be such that only 2-3 grains fall in each square meter. However, if a mouse is finding and eating all the grain in several meters before succumbing to toxic effects, there is less bait available for other mice. MOUSEOFF® is specially formulated to make it highly palatable so, do we have greedy mice that eat more than their share?

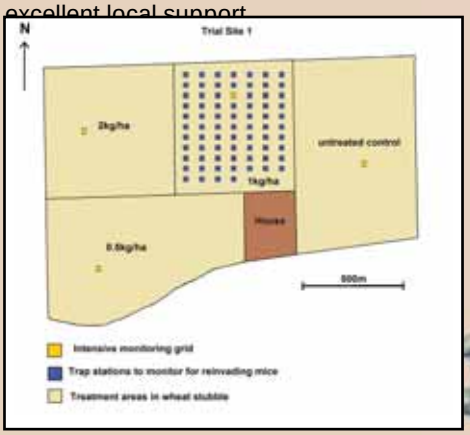
A series of controlled no-choice feeding studies found that mice were capable of continuing to eat MOUSEOFF® Zinc Phosphide Bait after a lethal dose had been consumed but before they died, which is 1- 4 hours after the first grain was consumed. In these studies excess MOUSEOFF® was provided to mice and they did not need to forage for it. Individual mice in controlled studies ate on average 9 grains with the minimum consumed 2 and a maximum recorded of 25. Mice appeared to consume grains of MOUSEOFF® ZP over a space of hours and it is possible that they continued to consume it even after the first symptoms of poisoning may have been felt. ACTA is still continuing this work and the next phase is to determine how many grains mice are eating in the paddock and not just in a controlled experimental setting. We expect the answer to this question in early 2012.

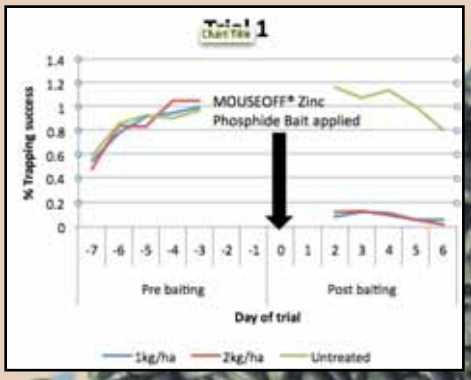
Would it then be better to bait at 2kg to help stop re-invaders?

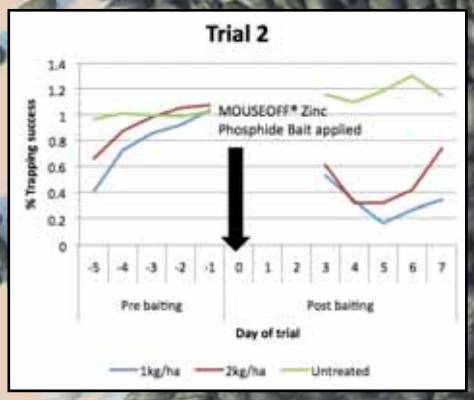
To date the tests to compare the effectiveness of 1kg and 2kg /ha baiting have found that there is no significant advantage in efficacy or reinvasion rate achieved by increasing the application rate. It is more likely that when 2kg/ha is used mice present will simply eat twice as much and be twice as dead! It looks at this time that farmers are better to save their money, bait at 1kg/ha and check crops within a week then rebait hot spots. It also looks much more effective, in extreme situations, to bait twice rather than to apply a large single dose. The existing MOUSEOFF® label allows for this.

When mice numbers are high across the landscape think about a whole of farm approach to baiting to stop reinvasions from adjacent paddocks. Talk to neighbours about any mouse problems they might be having and co-ordinate your baiting to occur at the same time. This will help to stop mice from moving between paddocks and farms. Alternately think about the timing of baiting if new mice can invade in about a week.

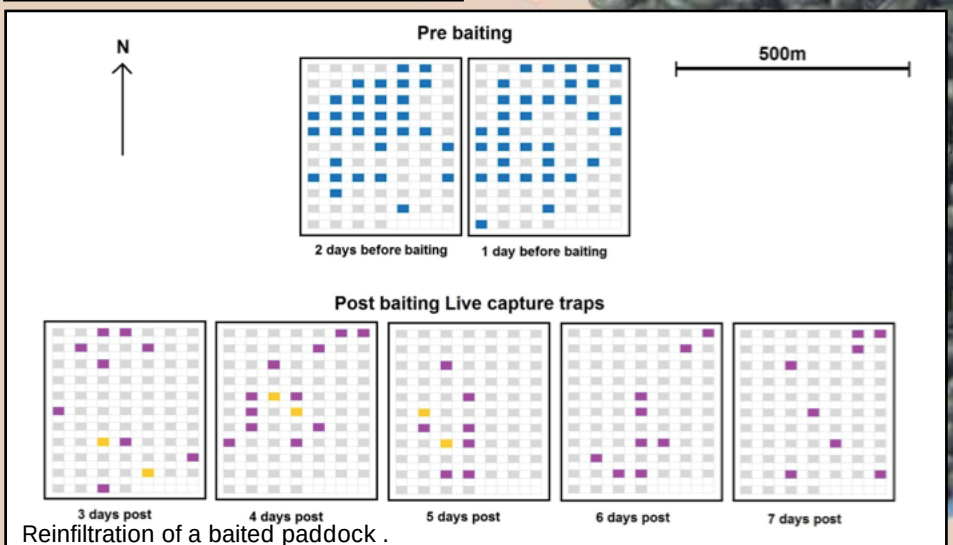
Researchers collecting data on live captured mice. Sometimes it can take nearly a month of trapping work just to get one result on a graph. ACTA acknowledges the work of Marion Atyeo, Tarnya Cox, Kerryn Herman and Marcus Michelangeli who spent months in the field collecting detailed information. Thanks also to Greg Mutze and Luke Nettle, local NRM staff on the EP and YP areas of SA. Thanks also to the farmers who allowed us to place traps and dig holes in their paddocks, for their excellent local support.







Efficacy of MOUSEOFF® consistently worked at 1kg/ha with no distinct advantage to baiting at higher application rates.



Reinfiltration of a baited paddock .

The blue squares = mice known to be present before baiting. Note that NONE of these survived the initial baiting.

Purple squares = new mice caught after baiting. We presume these have moved in from surrounding areas.

Yellow squares = new mice caught but found dead or dying in traps (possibly from picking up residual bait on the way).

Victorian aerial baiting plans up in the air

Farmers in Eastern Victoria are worried the State Government will not be able to begin aerial baiting for wild dogs this autumn as promised.

The Government intends to drop 1080 poison baits over parts of Gippsland and the north-east. Environment groups say the program could kill quolls and other native animals. The federal environment department has now decided to assess the plan under federal environment laws.

Victoria's Agriculture Minister, Peter Walsh, says the State Government is still hoping to begin baiting in May as planned. "We'll be working very hard to make sure that it does not delay it," he said. "The Commonwealth department has a checklist process they have been through, and it has put a flag up that they want to have a look at it." Mr Walsh says the Federal Government has approved a similar baiting program in New South Wales. "What I am asking them to do is go back and have a look against what is already being done in New South Wales," he said. "Dogs don't respect state borders, and we believe the control program in Victoria should be able to have the same opportunity as New South Wales."

A spokeswoman for the federal environment department says it will assess the impact on threatened species. She says the endangered spot-tailed quoll is likely to be found in the areas the Victorian Government is proposing to drop the poison baits in.

The president of the Victorian Farmers Federation's livestock group, Chris Nixon, told ABC Rural he believes the baiting program will be delayed. "We were very hopeful for aerial baiting to start this autumn," he said. "That is now probably off the agenda. Hopefully spring, but who knows? These things tend to take a long time. It's very disappointing. "It's something that the farmers around the High Country have been wanting and calling for for a very long time. He says the demand and need for the baiting to occur is still there.

"Our job will be to keep the pressure on to make sure that aerial baiting occurs as soon as it possibly can, and keep the pressure on the (State) Government to make sure that they meet all the requirements." Mr Walsh says the State Government intends to push ahead with its plans. "We are still committed to having it in place in May," he said. "I'm currently having a letter drafted to send to the Commonwealth Minister Tony Burke to ask him to intervene. This work has been done in New South Wales. He says there is good research out of New South Wales.

"You actually have a positive impact on quoll numbers by aerial baiting and dog control because you get less predation of the quolls," he said. The federal environment department says if the baiting proposal is assessed as having unacceptable impacts on a matter of national environmental significance, such as the spot-tailed quoll, then it will not be approved. The Victorian Government's controversial alpine cattle grazing trial is also currently being assessed by the Federal Government.

Photo: Environment groups say the baits could kill quolls and other native animals. (ABC News: ABC TV)

