

final report

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Ensuring effective uptake of IACRC products and strategies

PestSmart Toolkit and Roadshow

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Abstract

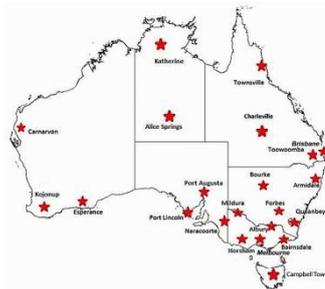
Between 2010 and 2012 the Invasive Animals Cooperative Research Centre undertook the largest scale invasive animal extension effort previously undertaken anywhere in the world. The PestSmart project was comprised of three parts, including the initial end user research into what form the final package should take, the development and publication of the PestSmart Toolkit (www.feral.org.au/pestsmart), and the organisation and delivery of the 20 regional stop plus 2 forum PestSmart Roadshow. The million dollar PestSmart project, co-funded by MLA, AWI, ABARES and MDBA, has since delivered over 100 factsheets, case studies, guides, videos and technical reports, with some 50 more in the pipeline. It has organised events that have been attended by some 1,500 people, and it has attended existing events with audiences of several hundred thousand. From all accounts the PestSmart invasive animals extension project, what was initially designed to be the finale and legacy of the IACRC, has been a resounding success, whether based on feedback, public interest or direct increases in IACRC product sales.

Executive summary

In 2010 the Invasive Animals Cooperative Research Centre (IACRC) embarked on an ambitious multi-faceted extension project aimed at distilling the organisations seven years of research into a series of expert-compiled factsheets, case studies, practical guides, technical reports and videos, to be known as the **PestSmart Toolkit**. Additionally, as the organisation was responsible for developing and delivering 14 new pest animal management products and four product use extensions for wild dogs, feral pigs, foxes, rabbits, rodents and feral cats, it was deemed essential that extension efforts promote the organisations product pipeline and achievements before its potential demise in July 2012. This led to the development of the **PestSmart Roadshow** concept. Backed by IACRC-commissioned end user research the PestSmart project developed throughout 2010 and 2011 into the largest single pest animal extension effort undertaken anywhere in the world.

The PestSmart Toolkit, housed at www.feral.org.au/pestsmart, is now Australia's one-stop-shop for pest animal information. With over 60 specifically written factsheets, case-studies, glovebox guides, technical manuals and scientific reports produced, the site contains the most up-to-date information on Australian pest animals anywhere. Furthermore, an additional 50 PestSmart Toolkit products are currently in production and should be available by the end of 2012. Additionally a PestSmart YouTube Channel has been established - <http://www.youtube.com/PestSmart> – which now contains 64 original videos shot by the IACRC that demonstrate practical pest management, pest ecology and pest impacts, including interviews with farmers and species experts. Despite its short existence, over 10,000 videos have been viewed at the PestSmart YouTube Channel.

The PestSmart Roadshow was organised by the Adoption Steering Group 2011 ASG members also and natural resource field days, such as the Northern Conference, various state and Queensland and New South tailored PestSmart Roadshow Queanbeyan on January 30, regional venues across Australia, pest fish workshops on European carp and tilapia, over the proceeding five months. Near 1,500 people subsequently attended the PestSmart Roadshow events, with thousands more seeing, hearing or reading about the events in the associated radio, television and newspaper articles.



been organised by the 15-member IACRC-convened throughout 2011. Throughout attended existing agricultural management conferences and Beef Research Update national NRM forums, key agricultural field days in Wales. In 2012 the location-events were launched in before taking in another 19 as well as organising national

Whether indicated through increasing usage of the PestSmart Toolkit website and You Tube channel, direct attendee feedback at Roadshow events, community support, increased product sales or calls for more Roadshow events, the PestSmart project has been a resounding success. This is in part due to the financial and physical support received for the project from Meat & Livestock Australia Ltd, Australia Wool Innovation Ltd, the Australian Bureau of Agricultural and Resource Economics and Sciences and Murray Darling Basin Authority. For this the IACRC is sincerely grateful.

Overall the PestSmart project has cost c. \$1M, including MLA's \$108,500 contribution. If the project results in only a slight change in pest animal management behaviour in Australia and a 1% reduction in the \$750M p.a. pest animal impact to Australian agriculture then it has been financially worthwhile. Early indications are that this change will be exceeded.

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1 Background

The Invasive Animals Cooperative Research Centre (IACRC) was funded in 2005 to deliver a suite of enhanced pest animal control products for wild dogs, feral pigs, foxes, rabbits and feral cats amongst other objectives. Included within the portfolio were improved toxins, baits, target-specific delivery systems and management strategies that would see a significant improvement in the way pest animals are managed in Australia. Each product has been developed with useability, animal welfare, target specificity and cost-effectiveness in mind. Every innovation promised by the IACRC will be delivered along with a few extras, a rare feat for any research organisation, although most (besides PIGOUT[®] and the HogHopper[™] which have already been launched) will not be registered until 2013-14. To ensure effective product uptake, and return on investment for government and industry funding, the IACRC planned to conduct a nationwide roadshow to directly demonstrate the use and benefits of these new products, as well as to assimilate the most pertinent information on pest species, existing control tools and new options into a readily available web-based information repository known as the PestSmart Toolkit.

The PestSmart toolkits and subsequent national IACRC PestSmart Roadshow offered MLA the opportunity to promote the good work that has been done over the preceding 7 years and to ensure the effective uptake of the new suite of IACRC products and information, including

- For wild dogs and foxes- PAPP baits, Blue-Healer[™] antidote, M-44 ejectors and Lethal Trap Devices, Nil-tenure approach;
- For feral pigs- PIGOUT[®], PIGOUT[®] Econobait, HOGGONE[®], HogHopper[™] and a nitrite concentrate;
- For rabbits- carbon monoxide fumigator and freeze-dried Rabbit Haemorrhagic Disease for carrots;
- For foxes and cats- spray tunnel technology.

Effective extension and uptake of the IACRC's new products and information could have the double benefit to MLA of reducing the \$200M+ p.a. impact of pest animals on red meat production in Australia (Gong *et al.* 2009), along with increasing royalty returns to the organisation of products developed and promoted with their financial assistance.

Along with MLA, Australian Wool Innovation and the Murray Darling Basin Authority were approached to co-sponsor the PestSmart Toolkit and subsequent Roadshow, subsequently joined the existing PestSmart sponsor of the Australian Bureau of Agricultural and Resource Economics and Sciences.

2 Project objectives

The overarching objectives of this Project were:

1. To ensure that existing and IACRC-developed information on key pest species, including their biology, distribution, impacts and the most effective management options, is readily available in the form of a PestSmart toolkit on www.feral.org.au.
2. To enhance the uptake of the above mentioned suite of new IACRC-developed pest animal management products through a national IACRC PestSmart Roadshow to directly demonstrate the use and benefits of the new products to graziers and other land managers alike.

The specific objectives were:

By March 2011:

1. Finalise contract and IP agreements with MLA.
2. Produce draft templates for PestSmart toolkits for each key species.
3. Commence planning for PestSmart Roadshow to be conducted in March 2012.

By September 2011:

1. Prepare initial PestSmart draft toolkits for each species.
2. Commission production of the IACRC Toolkit DVD (to be handed out to all land managers attending Roadshows), as well as You-Tube/Feedback videos. The IACRC will be separately investing \$225,000 in this process.
3. Lock in PestSmart Roadshow key locations in each state.

By January 2012:

1. Go live with the PestSmart toolkit for each species (although it will be an evolving web-site).
2. Advertise on radio, direct invitations and in the rural press the location and date of each PestSmart Roadshow location. Finalise travel details for the team of presenters (which ideally will involve a representative from MLA as well as other key funders).

By June 2012:

1. Ensure PestSmart toolkits are as up-to-date before the potential close of the IACRC.
2. Complete the PestSmart Roadshow.
3. Prepare and submit final report to MLA.

3 Methodology

The overall project involved two separate but intricately related extension approaches;

- 1) the PestSmart Toolkit, which is an ever-evolving web-based (<http://www.feral.org.au/pestsmart/>) repository of specifically prepared fact sheets, case-studies, technical manuals, scientific reports and YouTube clips on the IACRC's key pest species- rabbits, wild dogs, foxes, feral pigs, feral cats, carp, and tilapia.
- 2) The PestSmart Roadshow, which was a direct end-user engagement approach involving 20 regional day-long workshops, 2 pest fish forums and the attendance at 10 partner events, including agricultural and natural resource management conferences and field days.

PestSmart Toolkit

- The PestSmart toolkit are packages of information that distil existing pest animal information with the IACRC's 7-year research program findings into practical planning and control actions that will improve pest animal control, and reduce their impacts both at the property and regional levels.
- In her recently report Robins (2010) identified, through surveys and focus groups, that regional pest manager, including graziers and other land managers, are most likely to adopt toolkits on products and strategies if they are developed and promoted as a one-stop-shop for up-to-date and reliable data and information on pest animals across a wide range of topics and product types.
- The development of species-based, as well as integrated pest management toolkits was a major focus of the last few years for the IACRC, and is one of its key information legacy products.
- Each toolkit - wild dog, fox, feral pig, rabbit, feral cat, carp, integrated – is/was being prepared/overseen by the leading IACRC researcher in the field.
- The aim was to have the initial, albeit still comprehensive, species PestSmart toolkits go live prior to embarking on the IACRC PestSmart Roadshow to ensure attendees along with neighbours and colleagues have somewhere to gain further information following attendance at or hearing about a roadshow event.

- Attendees were also given a copy of the IACRC PestSmart DVD which details practical information on how to most effectively use existing pest animal control techniques as well as the IACRC's suite of new products.

PestSmart Roadshow

- Robins (2010) also reported the "*central importance of face-to-face and interactive approaches to information exchange in some regional contexts is strongly emphasised*". This led to the concept of the PestSmart Roadshow, which was modelled on similar events previously conducted by MLA and AWI that have involved IACRC staff.

- The PestSmart Roadshow was organised by the 15-member IACRC-convened and funded Adoption Steering Group (MLA rep- Blair Brice). The ASG met five times in 2011, in January (MLA Sydney), March (IACRC Adelaide), June (AWI Sydney), September (MDBA Canberra) and December (ACTA Melbourne), ahead of the January 30, 2012, launch. The ASC was Chaired by the report's author.

- The Roadshow planned to conduct at least three large grazier/land manager public meetings in the states of Queensland, New South Wales, Victoria, Tasmanian, South Australia and Western Australia. An additional meeting was to be held in the Northern Territory if deemed desirable.

- Roadshows were to involve a day-long workshop that will initially take a species approach to key pest animals (region dependent), discuss recent developments and demonstrate techniques before highlighting the importance of integrate pest management. Attendees will also be shown how to navigate the PestSmart toolkits website, and learn where and how to access control products.

- Some events alternatively consisted of IACRC representatives attending and presenting at key agricultural and land management conferences within Australia that occurred in late 2011 and early 2012.

- Onsite and follow-up surveys were conducted to assess knowledge and capacity improvement that has originated from the roadshow and toolkits.

4 Results

All overarching and specific objectives of this project have been met on time, but slightly under budget. This led to the organisation of three extra PestSmart Roadshow events in June 2012 (explained in more detail later), hence slightly delaying production of the final report until early July. The final project deliverables have exceeded what was originally promised to MLA.

PestSmart Toolkit

To date there have been more than 60 PestSmart Toolkit factsheets, case-studies, glovebox guides, technical manuals and scientific reports produced, all of which are available from the PestSmart website. All of the factsheets, case-studies and glovebox guides that were completed prior to or during the PestSmart Roadshow events were printed and given out to attendees at the events in the form of a 'goodie bag' if they completed their evaluation sheet. All factsheets, case-studies and glovebox guides that involved research sponsored by MLA have been branded as such. An additional 50 PestSmart Toolkit products are currently in production and should be available by the end of 2012.

The PestSmart YouTube Channel - <http://www.youtube.com/PestSmart> - now contains 64 original videos shot by the IACRC that demonstrate practical pest management, pest ecology and pest impacts, including interviews with farmers and species experts. Despite its short existence, over 10,000 videos have been viewed at the PestSmart YouTube Channel.

Partner Events

In 2011 as the prelude to the formal PestSmart Roadshow IACRC staff attended the below partner events:

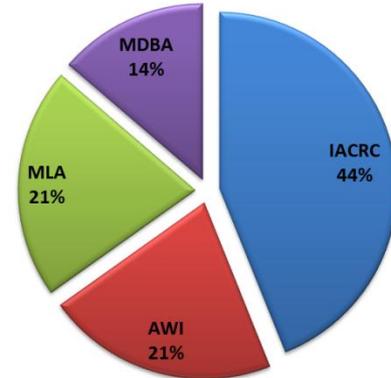
JULY	Event	Location	Activity
15 th	It's ewe time!	Longreach, QLD	talk - Suzy
26 th	It's ewe time!	Bairnsdale, Vic	brochures
AUGUST			
2 nd – 5 th	Northern Beef Research Conference	Darwin, NT	poster/sponsor – Steve
12 th	National Bestprac Forum	Hawker, SA	talk – Steve
23 rd -25 th	State NRM conference	Perth, WA	talk/stand-Jess
23 rd	It's ewe time!	Wudinna, SA	brochures
25 th	It's ewe time!	Lameroo, SA	brochures
SEPTEMBER			
6 th -8 th	Toowoomba AgShow	Toowoomba, Qld	talks/stand-Steve
20 th -22 nd	Henty field day	NSW	stand- Jess
26 th -29 th	Brisbane River Symposium	Brisbane, Qld	talk-Wayne
OCTOBER			
13 th	Territory NRM Forum	Darwin	stand- Jess
17-19 th	Australian National Field Day	Orange, NSW	stand- Jess
18 th -19 th	Native Fish Forum	Canberra, ACT	sponsorship/brochures/ speakers
NOVEMBER			
29 th -1 st Dec	Australian Wildlife Management Society	Bathurst, NSW	Symposium/trial run/ Sponsor/stand

The National NRM Knowledge Conference in Adelaide in April 2012 was also sponsored and attended by the PestSmart Roadshow.

Funding

Throughout 2010-2011 the IACRC was successful in applying for and receiving funding from AWI (\$108,500) and MDBA (\$70,000) to match MLA's \$108,500 contribution. Additionally the IACRC provided \$225,000 to fund the Adoption Steering Group and the PestSmart Roadshow, of which \$90,000 was used to employ the Project Officer, Suzy Balogh, on a part-time basis for 15 months. As such, MLA's financial contribution to the \$512,000 cash required to organise and carryout the PestSmart Roadshow was **21%**, as depicted in the below pie chart.

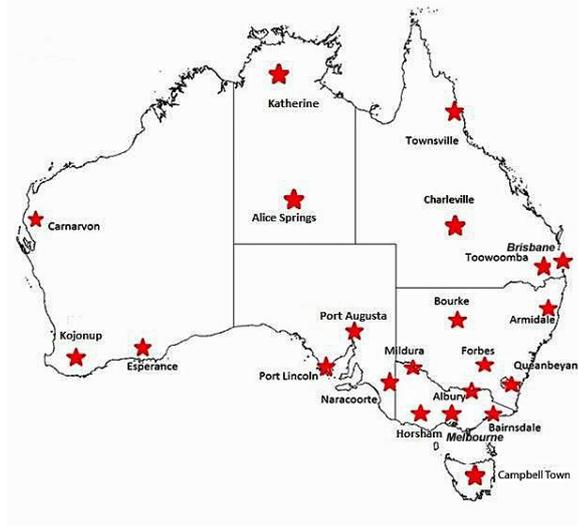
Cash funding of PestSmart Roadshow



Additionally, ABARES invested \$80,000 into the preparation of the PestSmart toolkit, contributing to the \$300,000 cash (for science writers; \$60,000 per key species) and in-kind contributed by the IACRC. An additional \$225,000 cash was spent producing the PestSmart DVD's- canid trapping and general pest management. **The overall investment in the PestSmart project has amounted to \$1.12M, plus in-kind salaries, approximately 2% of the organisation's \$59M operating budget between 2005 and 2012.**

PestSmart Roadshow

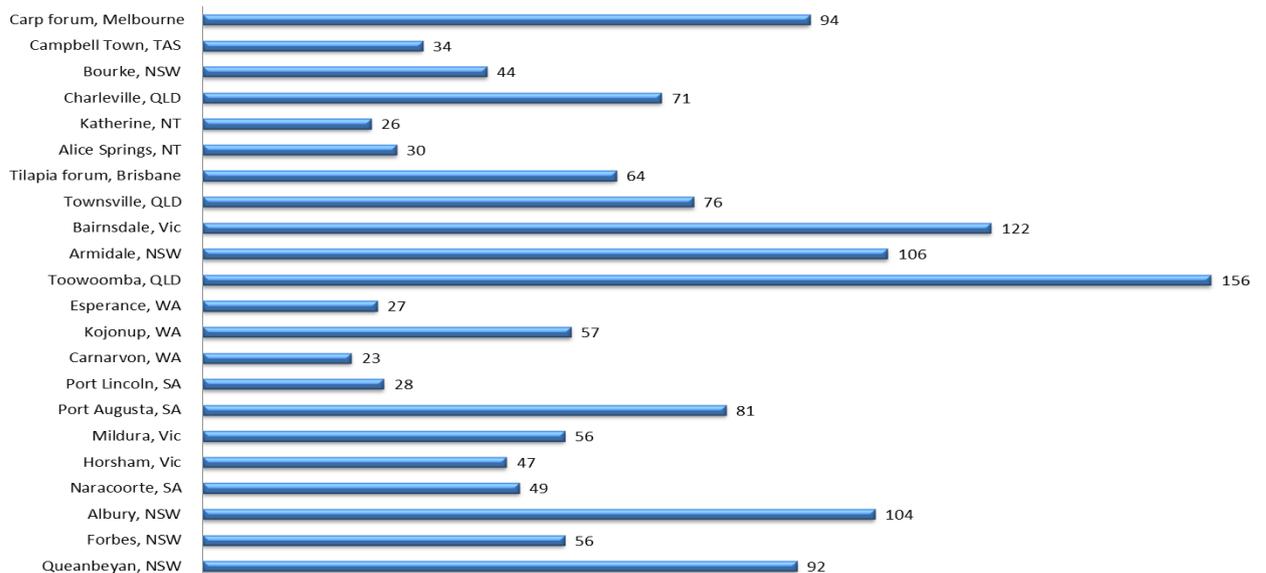
The PestSmart Roadshow was officially launched at Queanbeyan, NSW, on January 30, 2012, to a crowd of near 100 people. The final locations for all Roadshow events are mapped below, with the two pest fish forum locations in italics, with specified dates listed underneath.



Location	Date	Location	Date
Queanbeyan, NSW	Jan 30, 2012	Toowoomba, QLD	Mar 16, 2012
Forbes, NSW	Feb 1, 2012	Armidale, NSW	Mar 20, 2012
Albury, NSW	Feb 3, 2012	Bairnsdale, Vic	Apr 17, 2012
Naracoorte, SA	Feb 7, 2012	Townsville, QLD	May 1, 2012
Horsham, Vic	Feb 8, 2012	<i>Tilapia forum, Brisbane</i>	May 15, 2012
Mildura, Vic	Feb 9, 2012	Alice Springs, NT	May 29, 2012
Port Augusta, SA	Feb 14, 2012	Katherine, NT	May 31, 2012
Port Lincoln, SA	Feb 16, 2012	Charleville, QLD	Jun 5, 2012
Carnarvon, WA	Feb 20, 2012	Bourke, NSW	Jun 7, 2012
Kojonup, WA	Feb 22, 2012	Campbell Town, TAS	Jun 14, 2012
Esperance, WA	Feb 24, 2012	<i>Carp forum, Melbourne</i>	Jun 19, 2012

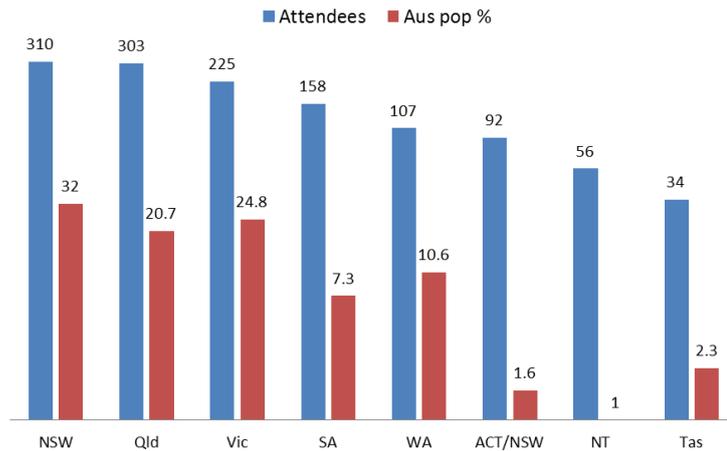
In total 1,443 people registered for PestSmart events at <http://www.feral.org.au/pestsmart/roadshow/> then through the Eventbrite website (<http://www.eventbrite.com.au/org/1738166588?ref=eorgbtn>). Although some registered attendees did not attend the event on the day, such losses were generally greatly outnumbered by unregistered ‘walk-ins’ for each event. The registered attendance at each of the PestSmart Roadshow events is depicted below in reverse chronological order.

Registered attendance at PestSmart Roadshow events



Initially there was no specific Roadshow events organised for Tasmania and the Northern Territory, as the attendance at existing agricultural and NRM events was deemed sufficient. A potential underspend towards the end of the PestSmart Roadshow allowed the IACRC, with approval from AWI and MLA, to organise events in the NT (Alice Springs and Katherine) and Tasmania (Campbell Town), therefore circumventing accusations of bias in where Roadshows were delivered. To examine whether attendance at Roadshow events was fairly spread across the states the total number of state attendees has been graphed against the percentage of the Australian population occurring in that state on a logarithmic scale. As indicated below, attendance at the 20 regional Roadshow events was generally in-line with the Australian population demographics.

Attendance at PestSmart Roadshows by State



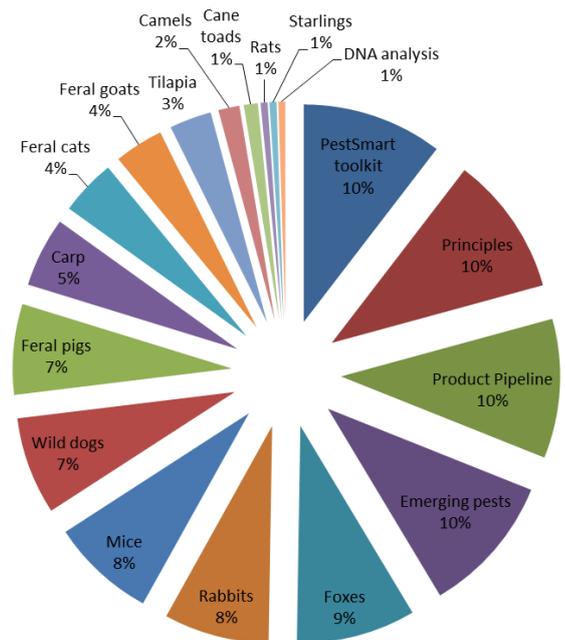
Yet to be analysed is the demographics of the audience members at each of the events as the IACRC is still in the process of entering the 1,000+ evaluations returned by attendees. Such an analysis will occur shortly. Notwithstanding, each Roadshow event was attended by a mix of government and private land protection officers (NSW LHPA, Qld Biosecurity officers, NPWS officers etc), farmers and graziers, government officials, rural merchants, students and concerned citizens.

PestSmart Roadshow Content

The below pie chart represents what was presented at the 20 Roadshow events which involved 193 individual presentations, not including the specific Tilapia and European carp forums. Presented at each show were the talks on the PestSmart Toolkit, principles of pest management, the IACRC’s product pipeline and new and emerging pest animals. Of the specific species, the talk on foxes was presented most, with the other major IACRC-focussed species of wild dogs, rabbits, feral pigs and rodents being not far behind.

Although presentations on carp and tilapia represented only 8% of roadshow talks, they each had a specific forum dedicated to them, indicating the significant investment the IACRC, through MDBA support, has spent on these two species.

PestSmart Roadshow presentations



As per the audience demographics, the audience feedback to the specific presentations and presenters is currently being compiled and will be analysed once available. The complete PestSmart Roadshow evaluation will form the basis of a science extension journal article. Notwithstanding, comments direct to IACRC Board members from graziers they had asked to attend included “*the day restored my faith in science*” (from Forbes event). Other regular comments have included “*a fantastically run event*” (Bourke), “*the best of this kind of event that I have been to*” (Campbell Town), and “*why don’t all CRC’s do this?*” (numerous occasions).

5 Discussion / conclusion

From all reports the IACRC’s PestSmart Toolkit and Roadshow have been a resounding success. Feedback has been overwhelmingly positive and every event had an extremely positive and collegial feel to it. The facts that some individuals travelled to multiple shows (up to 5 for one individual), people drove or flew more than 1,200km each way to attend events, and that multiple NRM Boards have offered to pay \$20,000 for the Roadshow to come to their town indicates the strong public support the extension effort had. Additionally, increases in sales of existing IACRC products, such as 125% for PIGOUT[®] above 2010 and 2011 sales, indicates that people are clearly acting upon the advice they received at Roadshow events or through the many associated media stories. Although the overall PestSmart project will cost c. \$1M, if this results in only a slight change in behaviour and a 1% reduction in the \$750M p.a. pest animal impact to Australian agriculture (Gong *et al.* 2009) then it has been financially worthwhile.

The major self-criticism of the PestSmart Roadshow is the low attendance at some events, and that the proportion of farmers and graziers attending the event was generally only 10-20% depending on location. With advertising undertaken directly by MLA (in *Feedback*) and AWI (in *Beyond the Bale*), local newspaper advertisements taken out for each event, articles in most of the rural press newspapers, a three month campaign on *Imparja TV*, and television and radio interviews prior to, during and following most events this was not through a lack of trying. A potential improvement on this short coming would be to employ a professional media company to generate higher levels of interest for any future PestSmart events. Unfortunately, this was beyond the financial resources available this time.

The IACRC PestSmart Toolkits and Roadshow have been the greatest national extension effort ever undertaken in the invasive species field in Australia or the world. The two-year process has involved most IACRC staff and partner organisations at some point. The whole process and remaining legacy - the PestSmart Toolkit - would have been a fitting end to the IACRC, as it was organised to be, but thankfully the organisation has been extended until 2017.

The PestSmart Toolkit and Roadshow would have not have been possible without the financial, moral and physical support of Meat & Livestock Australia, Australian Wool Innovation, the Murray Darling Basin Authority and the Australian Bureau of Agricultural and Resource Economics and Sciences. For this we are sincerely grateful, and we hope that they believe that their investment has been worthwhile.

6 Appendices

Some 500+ digital photographs and 50+ media articles are available to MLA upon request.

7 Bibliography

Gong Gong W, Sinden J, Braysher M and Jones R (2009). *The economic impacts of vertebrate pests in Australia*. Invasive Animals Cooperative Research Centre, Canberra.

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Welcome address being provided by Blair Brice (Meat & Livestock Australia) at the Toowoomba PestSmart Roadshow, March 2012.