

Communities to have their say on carp plan

THE destructive carp that infest most waterways on the eastern seaboard have every reason to be shivering with fear.

Since the federal government's announcement on May 1, 2016, that it is investing \$15 million to address the problem of carp in Australia, a team headed by the "carpinator" Matt Barwick within the Fisheries Research and Development Corporation (FRDC) has been tasked with developing a plan for the potential release a biological control agent known as Cyprinid herpesvirus 3, or "carp virus".

Common carp is the worst freshwater aquatic pest in south-eastern Australia.

They damage Australia's biodiversity, primarily through increasing water turbidity from their bottom-feeding behaviour.

Over the next 24 months, Mr Barwick will oversee more research, develop plans for the potential release of the virus and the clean up, and lead broad scale community and stakeholder engagement to get on-the-ground ideas on how a possible virus release could be managed.

"We will work closely with government, industry, environmental and communities to understand the local issues and to develop the National Carp Control Plan by the end of 2018," Mr Barwick said.

The carp virus will not be released unless all required legislative approvals have been received and there is support in all Australian jurisdictions.

The release will also not go ahead unless there is a comprehensive plan in place to support post-virus clean up activities.

Carp facts

- Carp are present in all states and territories except the Northern Territory and are estimated to comprise more than 80 per cent of the total fish biomass in many Australian waterways, and as much as 93pc in some areas.
- The federal government has invested \$15 million to develop the National Carp Control Plan.
- Further research will be undertaken over the next two years, but current estimates suggest that carp biomass in Australian waterways may exceed 500,000 tonnes.

"The carp virus was first discovered in Israel in 1998 and has had devastating impacts on carp populations across 33 countries," Mr Barwick said.

"Following years of testing under Australian conditions, CSIRO scientists are confident that the carp virus is specific to carp and won't cause disease in any other fish, animals or humans.

"From here we need to do more R and D and develop detailed plans to support the potential release of the virus, the subsequent clean up, and rehabilitation of native fish ecosystems activities that would follow.

"In particular we will assess if the virus can reduce carp abundance to below levels that cause ecological impacts at an acceptable cost."

Extensive community engagement will be a focus over the coming months to take on

board local input and ensure that the national approach developed is supported by local communities directly affected.

"There will be opportunities for all Australians, including Landcare groups, to play a role in the planning stage and I encourage those interested and affected to have their say," Mr Barwick said.

"There is a social and economic value of our waterways and fisheries, and this pest is affecting recreational water users, irrigators, water treatment processes, tourism operators and recreational fishers to name a few."

Mr Barwick is trained in environmental science, has years of experience and extensive networks in fisheries research and management in both government and non-government sectors.

For further information on the Carp Control Plan visit www.frdc.com.au/carp.



Estimates suggest carp biomass in Australian waterways may exceed 500,000 tonnes in the near future.

Canberra to host Australian Vertebrate Pest Conference

THE 17th Australasian Vertebrate Pest Conference (AVPC), to be held in Canberra from May 1-4, 2017, will focus on innovative solutions and future directions for pest management.

The need for innovative and evidence-based approaches to vertebrate pest animal management is imperative for providing solutions for Australian farmers, land managers, industry and government.

The AVPC program will comprise presentations on control initiatives, innovations in research, management and policy and the latest research outcomes.

The conference will also provide pest management experts with the opportunity to network and have in-depth conversations about the future of pest management, including a welcome reception and conference dinner.

Conference participants will hear from scientists and on-ground managers, including keynote speakers:

- Dr Dan Tompkins, portfolio leader, managing invasives, Landcare Research Manaaki Whenua, Dunedin, New Zealand;
- Dr Kurt VerCauteren, supervisory research wildlife biologist, National Wildlife Research Center, US Department of Agriculture, Colorado, USA;
- Professor Paul Martin, director, Australian Centre for Agriculture and Law, University of New England, Armidale;
- Dr Michelle Christy, national incursions response facilitator, Invasive Animals Co-operative Research Centre, Department of Agriculture and Food, Western Australia; and
- Mr Andreas Glanznig, chief executive, Invasive Animals Co-operative Research Centre.

The aim of the conference is to bring people involved in pest animal research and management together from Australasia, and elsewhere in the world, to network.

Participants will include researchers and students involved in pest management, state government agencies, federal and international government agencies, local government councillors and pest officers, landowners and managers, natural resource management bodies, members of conservation agencies and industry bodies, contractors and community project officers.

The conference is organised by the Invasive Animals Co-operative Research Centre, in conjunction with the federal and ACT governments.

Visit avpc.net.au.



This wild dog was snapped by a remote camera trap set up in a national park.

Peri-urban wild dogs' diet not what you'd expect

RESEARCHERS based in Queensland, funded through the Invasive Animals Co-operative Research Centre, were interested in the diet of peri-urban wild dogs to assess whether food scraps might be favoured over native wildlife or small livestock.

Diet analysis from scats collected in peri-urban areas of south-east Queensland indicated peri-urban wild dogs do not appear to rely on human-sourced foods, and limiting access to these foods is unlikely to influence wild dog populations.

However, the presence of iconic and threatened wildlife species, such as koalas, was recorded in these dietary studies.

They indicate strong potential for deleterious impacts in the peri-urban areas where many are already restricted to bushland fragments already "under siege".

This data gives further evidence towards the importance of managing wild dogs in peri-urban areas as well as rural and regional areas of Australia.



Coming together for biosecurity

By Luke Hartsuyker,
Assistant Minister to the
Deputy Prime Minister

LANDCARE and biosecurity go hand in hand.

To protect and restore our environment, and improve the sustainability and productivity of Australian agriculture, it is important we have measures in place to manage the risks that biosecurity pests and diseases pose.

We have a world-class biosecurity system that manages those risks and are also fortunate to have farmers and Landcarers who understand the importance of effective on-the-ground biosecurity management.

I was pleased the theme for this edition of Landcare in Focus is "Biosecurity Management: Invasive Species, Pests and Disease".

This provides an opportunity to recognise the significance of biosecurity, as well as highlight the steps we are taking to ensure Australia remains free of deadly pests and diseases.

Through the Agricultural Competitiveness White Paper, the government committed \$200 million for biosecurity surveillance and analysis, to better target critical biosecurity risks.

Effective biosecurity protects agricultural industries and the community from exotic pests and diseases, and supports our access to overseas markets.

Also under the Agricultural Competitiveness White Paper, we have committed a further \$50m to improve the tools, technologies, skills and knowledge that farmers

and the community need to tackle established pest animals and weeds.

This has so far included \$22.5m provided to states and territories for projects to help landholders manage key agricultural pests, such as wild dogs, foxes and feral pigs, as well as various damaging weeds.

It has also included \$10m for the development of new or improved tools or technologies to control established pest animals and weeds through the Control Tools and Technologies for Established Pest Animals and Weeds Grants Programme.

A total of \$25.8m is being provided over four years to fight pests in drought affected areas, to support those who are still working through tough times across Queensland, NSW, Victoria, South Australia and Western Australia.

We also announced a \$6.2m grant to the Rural Industries Research and Development Corporation (RIRDC) to research new ways of stamping out weeds that hurt agricultural profitability.

This project will target 10 pest weed species that collectively cost our agriculture sector more than \$400m each year.

A range of funding has been provided to help us tackle specific pests of significance for Australian agriculture.

We are helping fund the national eradication plan for Red Imported Fire Ants (RIFA) and at the Agriculture Minister's Forum in May next year, we will be considering an enhanced 10-year \$380m RIFA eradication plan.

As part of the government's \$1.2m commitment to assist with the research and development of new rabbit control methods, a new rabbit eradication virus will be trialed this year at more than 600 sites across Australia.

The combined effect of previous rabbit biocontrols has kept the wild rabbit population to about 15 per cent of potential numbers, which is thought to have been as high as 10 billion rabbits in the 1920s.

Wild dogs cost Australia's agricultural sector as much as \$66m per year through livestock losses, disease transmission and control costs.

To help farmers manage this threat, \$1.63m has been invested in the National Wild Dog Action Plan and more than \$1m has been allocated to develop and test early warning systems to ensure pre-emptive action can be taken when dogs enter a farm.

We have concluded public consultation on the revised Australian Pest Animal Strategy and Australian Weeds Strategy.

Feedback received will help inform the revised strategy, which will be released in early 2017 and will shape the way we manage pest animal and weeds into the future.

All of these initiatives support and align with the objectives of the National Landcare Programme, and the Australian government continues to remain committed to helping the programme meet its objectives.

An additional \$100m in funding was recently announced to support the programme over the next four years.



Luke Hartsuyker, Assistant Minister to Deputy Prime Minister and Agriculture Minister Barnaby Joyce.

We have also commenced a review of the current programme and have received input from key stakeholders and community members to help inform the design of the new National Landcare

Programme, which will commence in July 2018.

- For more information, I encourage you to visit www.nrm.gov.au/national-landcare-programme/public-consultation-review.

Looking ahead to an eventful year

By Landcare Australia CEO,
Tessa Jakszewicz

AFTER a busy and productive 2016, I hope everyone had a nice break for the holidays and a happy new year.

It is important to recharge before getting back into the swing of things, which Landcare Australia is doing with some funding opportunities this month, including the Momentum Energy Junior Landcare Grants, with applications open now.

The grants are for those involved in educating young people in Victoria about the Australian environment, including schools, childcare centres or youth groups.

There are 200 \$1000 grants for projects that will help youth actively take a role in caring for the future of our environment.

For updates on these grants and more, subscribe to our Landlink and Junior Landcarer e-newsletters here: landcareaustralia.org.au/news_subscribe.

For a look back on what Landcare Australia accomplished in 2015/16,

check out our first digital annual report here: landcareaustralia.org.au/AnnualReport2016.

You can read about some of the projects we funded, and other great fundraising and awareness raising initiatives undertaken throughout the year.

This month's *Landcare in Focus* theme, "Biosecurity Management: Invasive Species, Pests, and Disease", is an important one to highlight.

Due to Australia's relative isolation in the world and strict laws, we've been able to remain free of many of the most devastating pests and diseases, but it's more important than ever to maintain that status.

According to the federal Department of Agriculture, our agricultural export industry is valued at \$32 billion, and would be in jeopardy should we not take biosecurity seriously.

The Australian government has allocated \$85 million between 2015-16 and 2018-19 for national programs to eradicate exotic pests and diseases, and there are many Landcare groups working on interesting biosecurity projects, as you'll see in this edition.



Landcare Australia CEO, Tessa Jakszewicz.

Have you got a great story to tell?

ARE you a budding Landcare storyteller with a land management story to share with the movement? If so, we'd love to hear from you.

Bring us your news, case studies, tips and tricks, or expert advice around our quarterly theme:

May 2017: "Climate Impacts on Farming Practices and Energy Efficiency".

The deadline is April 7.

Submit your article to: lif@landcareaustralia.com.au

All submissions must adhere to the following guidelines and deadlines and include: One article of between 200 and 600 words saved as a Microsoft Word document or a PDF.

- Onetothreehighresolution (must be at least 1mb in size and more than 300dpi) image that clearly illustrate the article.
- Full captions for each attached image, explaining who is in the photos and/or what they illustrate. Please also ensure permission to publish is obtained from people in the photos.
- Contact info or links for readers seeking more information about your story.

Exclusion fencing brings real savings and sleep

IN 2015, a wool-producing property, located in central west Queensland, invested \$200,000 to construct an exclusion fence to protect its ewes and lambs from an increase in wild dog attacks during lambing periods.

That property is now realising real economic, social and environmental benefits as a result of the fencing.

Since 2010, the incidence of wild dog attacks on properties in central west Queensland has increased despite regional wild dog management programmes.

Due to the financial impacts of the attacks, some landholders reduced their flocks or moved out of sheep altogether.

Prior to the exclusion fence, sheep mortality due to attacks on the Queensland wool-producing property was in excess of 10 per cent in some paddocks and lambing

percentages also fell dramatically, preventing the flock replacement.

As a result of the fencing, annual mortality rates of adult sheep have halved from about 6pc to about 3pc.

According to the landholder, this is a saving of about \$30,000 if sheep are valued at \$100 per head.

Lambing percentages increased from a long-term average of less than 50pc to 82pc in 2016.

This is an additional 1200 lambs worth about \$60,000 if the lambs are valued at \$50 per head.

Not only has the fence improved the survival rate of sheep by controlling wild dogs, it has also mitigated against the effects of drought by reducing the total grazing pressure in the fenced area.

The number of wild animals grazing that area was reduced and pasture was allowed to recover after stock grazing.

The landholder reports biosecurity has been strengthened in the area with a reduction in the number of certain weeds and diseases that are spread by dogs and kangaroos.

Employment of local shearers and shed staff on the property has increased from eight to 10 people for seven to eight days to 13 to 14 people for 13 to 14 days.

This represents more than \$20,000 in extra wages going into the community.

The fence also provides greater labour efficiency with far less time dedicated to wild dog management.

The increase in farm income and success of the wild dog exclusion fence has given the landholder confidence in the future for his farm business and he is no longer losing sleep over the thought of possibly being forced out of the sheep industry.



A Queensland wool producer has seen a big increase in productivity after installing an exclusion fence.



Australian Wool Innovation on-farm program manager Ian Evans with the new predator baits. Photo by AWI.

First new predator toxin in 50 years now available to graziers

THE fight to stop the widespread damage to agriculture and the environment caused by wild dogs and foxes will be fortified with two new poison baits – Dogabait and Foxecute – now available for use in Australia.

This major collaborative research and development investment between Animal Control Technologies Australia (ACTA), Australian Wool Innovation (AWI) and the federal government through the Invasive Animals CRC has resulted in the first new predator toxin in 50 years becoming available since 1080 was released on the market.

The new baits contain a chemical toxin called para-amino propiophenone (PAPP), which causes

a targeted and quick death to wild dogs and foxes when consumed.

Unlike other predator toxins, these new PAPP bait products have an effective antidote, which needs to be administered by a vet.

However, due to the fast-acting nature of the baits, normal precautions and notifications must be undertaken to protect pets and working dogs during baiting programs.

PAPP bait products are available for sale to approved users and come under the same restrictions as purchasing and using 1080 baits.

Use of the PAPP bait products differs between states and territories, so it is recommended checking with local authorities before use.

• Visit www.pestsmart.org.au/PAPP.

WE WANT YOU. YES YOU.

SYDNEY, FEBRUARY, 2017

The annual Landcare in Focus readership survey is now open!

Landcare in Focus wants to hear from you!

Our annual readership survey is now underway and we want your feedback. Take 5 minutes to tell us what you like or don't like about this publication and you'll be entered to win an iPad! Hurry, the 2017 Landcare in Focus readership survey closes on 30 March.

Visit: <http://bit.ly/ReaderSurvey2017> today!





Cannibal Creek Landcare works on ousting feral animals and weeds

CANNIBAL Creek Landcare Group, situated in West Gippsland Victoria, has concentrated on two important environmental issues over the past three years – the control of feral animal numbers and the control of environmental weeds.

Principally focusing on foxes, but also feral deer, rabbits, and Indian myna birds, the group has worked on ousting blackberry, broom, willows, radiata pines and especially sweet pittosporums along the creek and streams.

Garry Burns is the co-ordinator of a group of local shooters who are involved in the task of reducing the numbers of foxes, rabbits and deer.

Garry has put a great amount of time into liaising with landholders within a three kilometre radius of Mount Cannibal Flora and Fauna Reserve (a site of state significance).

These properties are visited at least once a month by a group of competent, licensed shooters who have succeeded in removing more than 200 foxes, 300 rabbits and 60 deer from the designated area over the past three years.

Garry estimates about 70 per cent of foxes have been eliminated from the area.

The continuation of this programme is important to ensure that this reduction in number is ongoing.

The group has been able to receive funding from “Caring for Our Country” and Port Phillip and Western Port Catchment Management Authority via the Cannibal Creek Catchment Biodiversity Project to supplement the cost of the ammunition.

Under the same project, Cannibal Creek Landcare has been considered to be part of the release of the new strain of Calicivirus K5 strain in autumn 2017.

Control of foxes will then become more important.

The problem of Indian myna bird numbers has been addressed through the purchase of three cages and funding promised for four more, plus the use of group member’s cages.

Three members, Ross Cheesewright, Alan Forte and Nicole Kuhnell, have been instrumental in trapping and disposing of the birds, and educating other group members and the public on the best way to use the traps.

These three members alone have accounted for trapping more than 600 birds in 2016.

Weed control is another major emphasis of a project initiated by Cannibal Creek Landcare Group - Cannibal Creek Catchment Biodiversity Project.

Its aim is to completely eradicate weeds from Cannibal Creek, starting



Indian myna bird catchers Ross Cheesewright, Nicole Kuhnell and Alan Forte.

from its source all the way to where it joins the Bunyip River, along with its tributaries.

To deal effectively with the weed infestation, the amount of funding received equates to the number of volunteer hours done by all the project partners.

Cannibal Creek and Bunyip Landcare groups, Western Port Catchment Landcare Network, Friends of Mt Cannibal, Cannibal Creek Reserve Committee, Mt Cannibal Preservation Committee, Cardinia Shire, Cardinia Environmental Coalition,

Catchment Management Authority, Melbourne Water and Gumbuya Park are all members of this project.

• For more information on the group’s activities or to get involved, email cannibalcreeklandcare@gmail.com.

Green Army helps eradicate cat’s claw creeper

MEMBERS of Gympie and District Landcare were alarmed at the rapid and aggressive spread of cat’s claw creeper across the Gympie region of Queensland more than a decade ago.

Defying initial expectations that it was a weed of the riparian zone, it was well established along road sides, in native and plantation forests, and in upland country.

Learning that biocontrol insects were being introduced following successful trials in other countries, the group hoped this would help manage the weed where physical and chemical control were impractical.

Two insects available were a tingid bug and a leaf tying moth.

The group had considerable success rearing the tingid bug, but less so with the leaf tying moth, as it had a lengthy winter diapause and pupated in sand.

Despite their best efforts, few adults emerged from the pupation.

In the past few years, the group has also had success with mass rearing a jewel beetle released for cat’s claw creeper, and a beetle released to combat the madeira vine.

Between November 2015 and December 2016, two Green Army projects supported the efforts of the Gympie and District Landcare Group.

The project host – Gympie Regional Council – developed projects that had the teams working along Deep Creek, Yarra Creek and

Mary River, implementing a range of erosion management strategies and revegetating the riparian zones with native vegetation.

As part of the targeted outcomes, the teams have been removing and managing incursions from an array of weed species, including cat’s claw creeper.

Physical and chemical control of the weeds in a small priority area has been a core benefit of their work.

The teams also helped support the insect raising facility by bringing in tubers and potting them up, keeping the insect rearing facility in fresh host plants.

In peak insect breeding times, this comes to 400 plants every few weeks, a tremendous support to Gympie and District Landcare volunteers.

In enclosed cages at high population densities with no predators and ideal environmental conditions, the insects the group has been using all have a significant impact on cat’s claw creeper and madeira vine.

The tingid bug is a sap sucker, like a vampire, that weakens the plant and causes chlorosis of the leaves.

The jewel beetle is a leaf eater and leaf miner.

The juveniles mine the leaves and pupate in a larval disk within the leaf, while the adults nibble on leaves.



The scale of the cat’s claw creeper problem in Amamoor Creek, Queensland.

The madeira vine beetle is also a leaf eater, and at high densities its larvae can completely defoliate host plants.

In open environments, the insects don’t normally kill the weeds, although in the most successful releases they have totally defoliated the targeted weeds.

Both cat’s claw creeper and madeira vine have underground tubers that are not damaged by the insects, and they reshoot.

The goal is to establish base populations that reduce the vigour of the vine weeds and reduce their ability to seed.

Cat’s claw creeper is considered an economic weed, threatening the viability of forestry plantations in some areas.

Luckily, the group’s efforts, with the help of the Green Army teams, have seen a success.

• For more information, contact Jenny Whyte at admin@gympielandcare.org.au.

Wild rabbits: groups and agencies working together to get the best results

By Lauren Hull, Victorian Rabbit Action Network

A QUIET evolution has been under way in Victoria in a concerted effort to improve the management one of Australia's most invasive animals: the European rabbit.

Rabbits do not stop at fences, with sustainable control only possible when individuals, communities, and government agencies work together.

This marks a major change from business as usual.

But for the Victorian Rabbit Action Network (VRAN), the group supporting the evolution, it is a shift in mindset that is key to ending the rabbit's influence over our landscape.

Funded by the Invasive Animals Co-operative Research Centre and Agriculture Victoria, VRAN encourages landowners, community groups and government agencies to co-design integrated rabbit control programs.

This collaborative approach draws upon a diverse range of knowledge, particularly from those at the coalface of managing rabbits.

It's been more than 60 years since rabbit populations in Australia peaked at 10 billion.

Since then, a range of control methods have been employed in efforts to bring down numbers.

Although the rabbit population is no longer at the that extreme level, they are still the unwanted architect of



Peter Barnes at Ned's Corner Station, Victoria.

the landscape, causing havoc across farms, deserts, grasslands and coastal plains, and threatening more than 300 native species of flora and fauna.

They also cost \$200 million per year in lost agricultural production.

One of the VRAN programs is a learning and mentoring network, which has taught trainees about everything from best practice rabbit control to building effective working relationships.

Its emphasis is on building the capacity of trainees to both

manage their landscape and influence their communities.

Its impact is obvious for Peter Barnes, manager at the Trust for Nature's 30,000-hectare Ned's Corner Station in Victoria's north west.

He is a member of the learning network and has a lifetime of experience in managing rabbits.

"Through the learning network, I've been able to share and gain knowledge around not only rabbit management, but the people that manage pests," Mr Barnes said.

"At Neds Corner we have been very successful in controlling rabbits at low numbers, and now with the learning network, I have become better at managing the people that control rabbits."

The learning network brings together people from a wide variety of groups involved in rabbit control, including Landcare, local government and compliance.

Mr Barnes believes the group's strength is in members' diversity of experiences and skills.

"It's allowing us to continually refine, update and solve issues around best practice rabbit management and build a better attitude about rabbit control throughout the broader community," he said.

Other VRAN initiatives include grants to support community-led learning and rabbit action, and a national rabbit conference to share community knowledge and the latest research.

Together with the learning network, each program is building a growing network of people focused on a community-wide approach to rabbit control.

People working at all levels of the rabbit control system are looking at ways to better engage local people, and knowledge that was once owned by a diminishing number of rabbit experts is now being shared across the community.

Andrew Woolnough, from the Victorian government's invasive species policy unit, sees the shift as vital for effective pest management.

"Established pest animals and weeds are problems that simply will not go away," Mr Woolnough said.

"A new approach to how they are collectively managed is needed.

"Empowering those impacted by the pests to take action is the key to success," he said.

• Visit www.rabbitaction.com.

Michael Reid, Peter Barnes, Paul Dennis and Andrew Woolnough contributed to this article.

School students starting conversations in new biosecurity management programs

AGRICULTURAL and environmental professionals understand the importance of biosecurity in maintaining healthy and productive environments and produce.

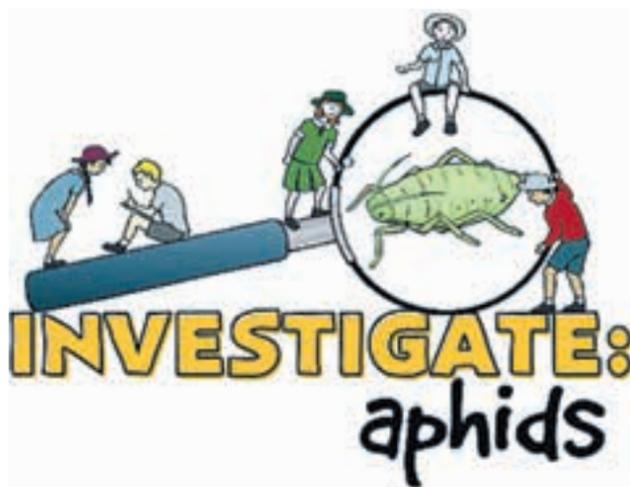
Monitoring, assessing and managing a variety of biosecurity threats are part of day-to-day business for farmers, gardeners and environmental managers.

Unfortunately, the biosecurity story often does not infiltrate into some of our largest and highest risk communities.

Starting with the next generation, a NSW Department of Primary Industries (DPI) schools program aims to start conversations around biosecurity in schools, homes and communities through classroom activities which encourage education and participation.

Investigate, DPI's annual science and technology competition for Year 5 and 6 students, guides teachers and students through a biosecurity-themed investigation.

Teaching and learning activities initiate learning about



biosecurity management and topical biosecurity pests and inspires conversations in homes and communities throughout NSW.

In 2016, "Investigate: fire ants" engaged nearly 2400 students in conversations about biosecurity and learning about imported red fire ants.

There were impressive results in the inaugural year, with students creating a variety of engaging products to communicate their understanding of

biosecurity and fire ants in their local community.

This year, students from metropolitan, regional and rural NSW schools will "Investigate: aphids".

Aphids are a significant problem for gardeners and farmers throughout NSW and Australia.

In 2016, the Russian wheat aphid, an exotic pest, was found in three Australian states, including NSW.

Helping high school teachers and students

A BIOSECURITY planning for schools unit of work tailored to NSW biosecurity regulations and syllabus requirements is available for high school teachers and students.

The unit supports students and teachers in developing their understanding of biosecurity and its importance in maintaining animal and environmental health at the farm, community and global level.

Due to its rapid spread, it is now classed as an endemic pest species and may affect the productivity of NSW agriculture.

Students will investigate how they can keep aphids away and create an advertisement to persuade others to help in the mission of keeping these pests from our gardens and agricultural crops.

The resource will guide the development of a biosecurity plan for school ag plots or selected agricultural areas.

This resource is linked to Year 7 to 12 agriculture and is now available to all schools on NSW DPI's website.

Local schools and communities are encouraged to become involved and use the available resources.

• Visit www.dpi.nsw.gov.au/education-and-training/school-resources, or contact the NSW DPI schools program at schools.program@dpi.nsw.gov.au.

This year is shaping up to be an even bigger and better competition.

Local schools and communities are encouraged to get involved in becoming biosecurity warriors and register now at www.tocal.nsw.edu.au/home/investigate/investigate-aphids-2017.

Registrations close February 25.



Indian couch invasion: a double-edged sword

By Nicole Spiegel, Queensland Department of Agriculture and Fisheries

INDIAN couch (*Bothriochloa pertusa*) is an exotic tropical grass that has invaded native pastures in Queensland.

Early introductions in the 1930s and onwards of the grass were mainly for amenity uses, such as lawns and aerodromes across drier parts of the state.

Six strains have been identified in Queensland, including commercial releases like cv. Dawson, a superior lawn grass species.

In Bowen, in north-east Queensland, Indian couch was recognised for its ability to stabilise eroded gullies, but it also took off like wildfire.

Drought and overgrazing are believed to be factors that contributed to the increase in dominance of this Bowen ecotype in native black speargrass (*Heteropogon contortus*) pastures.

Although Bowen is a less vigorous strain, it is an excellent coloniser.

There are now many areas of north-east Queensland where Indian couch has become dominant, often forming complete monocultures.

FRIEND OR FOE?

Indian couch is a perennial grass that tolerates heavy grazing and provides some carrying capacity for beef businesses.

It is also a creeping grass with runners, providing good soil surface cover.

However, it is not particularly productive or drought tolerant and has a poor root structure when compared with the desired native or improved perennial pasture species, such as native desert bluegrass (*Bothriochloa ewartiana*).

Therefore, it is likely that economic (reduced cattle production) and environmental penalties (reduced water infiltration, increased run-off) are associated with Indian couch invasion.

There is also some evidence that Indian couch is allelopathic, producing chemicals that inhibit the growth of other plants.

This could make the displacement of Indian couch by other pasture species very difficult, particularly once Indian couch is well established.

RESEARCH PROSPECTS

A scoping study on Indian couch, carried out in 2015/16 by Queensland's Department of Agriculture and Fisheries (DAF), involved consultation with up to 50 beef producers in north and central Queensland.

Producers were strongly in favour of research being conducted on management and control options for Indian couch.

Regional differences would need to be considered, such as where Indian couch is dominant (learning to live with it) versus where it is still invading native pastures (identifying ways to halt/reverse ongoing invasions), or where it has invaded sown pastures in central Queensland.

Both management (time of grazing and fire) and control options (complete removal/elimination) would need to be investigated.

Producer feedback has been pivotal in the development of a recent research proposal to address the Indian couch issue.

The proposed project will aim to determine the extent and likely spread of Indian couch invasion in north and central Queensland, identify factors responsible for its expansion, and quantify its impact on carrying capacity and livestock production.

Work is also proposed to test and identify practical options to either manage or control Indian couch spread on native and sown pastures.

• For further information, visit www.futurebeef.com.au and search "Indian couch" or contact Nicole Spiegel via email nicole.spiegel@daf.qld.gov.au or contact (07) 4761 5150.



Dr Nicole Spiegel compares the biomass of exotic Indian couch (small tufted grass) with native black speargrass (large, tussock grass).



Indian couch monoculture.

Myrtle rust a threat to biodiversity

By Geoff Pegg, Angus Carnegie and Bob Makinson

MYRTLE rust (*Puccinia psidii*, eucalyptus rust or guava rust), is an exotic fungal disease detected for the first time in Australia on the central coast of NSW in 2010.

Plant Biosecurity CRC researchers have been tracking the effects and spread of myrtle rust with sobering findings.

"Myrtle rust has continued to spread and is now well established in native ecosystems along the east coast of NSW and Queensland," said Queensland's Department of Agriculture and Fisheries forest pathologist Geoff Pegg.

"We have seen wide-ranging impacts on plant species in many different ecosystems."

"One of the reasons that myrtle rust is so damaging in Australia is that the host range is vast and continues to grow, with more than 350 species now reported as susceptible from 57 genera.

"The impact on plant species ranges from minor leaf spotting,

varying levels of defoliation and dieback and death of trees/shrubs at all life stages including seedlings, saplings and mature trees.

"Reduced reproduction, by myrtle rust infection, of flowers and fruit, or indirectly as a result of tree dieback, is compounding the issue.

"Impacts are also being seen at plant community level, particularly in Myrtaceae-rich ecosystems such as Wet Sclerophyll, coastal heath and Melaleuca wetlands.

"In some sites there is already evidence of change in species composition and reduced diversity, due to local extinction of susceptible species.

"Additionally we are not sure how this change will affect invertebrates and vertebrates dependent on some of these species."

Fortunately, opportunities to incorporate myrtle rust-resistant trees in revegetation programs exist for some species.

This is particularly the case for the broad-leaved Melaleuca spp. (*M. quinquenervia*, *M. leucadendra*, *M. viridiflora*).

Melaleuca quinquenervia are key to maintaining and improving water quality, as well as being important to a range of wildlife.

They provide valuable nesting or roosting sites for a number of bird and bat species, and are an important food source for migratory birds.

From an industry perspective, the developing lemon myrtle (*Backhousia citriodora*) industry has been one of the hardest hit by the disease.

Lemon myrtle leaves contain oil with the highest citral content of any known plant in the world - the lemony aroma compound used for its citrus effect.

The leaves are dried and milled for use in teas or as a spice, and steam distillation is used to extract the essential oil from the leaf material, which can then be used as food flavouring, in aromatherapy products, cosmetics and toiletries.

In 2012, production of lemon myrtle was estimated to be between 575 and 1100 tonnes of leaf and three to eight tonnes of oil, with a farm gate value of between \$7 and \$23 million.

The introduction of myrtle rust into Australia is jeopardising the growth and success of this industry, with the disease causing foliage loss, dieback and stunted growth.

Yield losses of up to 70 per cent have been reported in untreated lemon myrtle plantations.

• For more information on myrtle rust, visit Plant Biosecurity CRC at www.pbccrc.com.au and the Australian Network for Plant Conservation at www.anpc.asn.au/resources.



Geoff Pegg is at the Queensland Department of Agriculture and Fisheries; Angus Carnegie is at the NSW Department of Primary Industries, and Bob Makinson is a consultant.



Myrtle rust infection of growing tips results in dieback and prevents flowering in Melaleuca quinquenervia.

Mapping a 'wheely prickly' problem

By Lee Mead, president of Tarrangower Cactus Control Group

COMMUNITY members around Maldon, Victoria, became alarmed at the invasion of wheel cactus (*Opuntia robusta*) on their properties and historic landscapes in the 1990s.

By 2005, members of three local Landcare groups formed the Tarrangower Cactus Control Group (TCCG), specifically to focus on control of this highly invasive plant.

"Neighbouring farmers and townfolk realised what a serious threat wheel cactus posed to their land, livelihoods, parks and well-being," said founding member and former president Ian Grenda.

Since then, the "cactus warrior" volunteers have been informing, demonstrating and assisting local landowners to control wheel cactus infestations on their properties.

"We've held regular community field days on both private and public land, and provide incentives, such as free loans of injecting and digging equipment

and free disposal of plants at the local tip," Mr Grenda said.

Current group president Lee Mead believes the group is doing good work.

"Our group has significantly increased awareness of the threat of wheel cactus within our community over the past decade by creating and distributing brochures, publishing regular media releases, and creating a dedicated website, www.cactuswarriors.org," Ms Mead said.

"Participating in local events such as the Maldon Easter Fair parade and the annual agricultural show also effectively increases our plight and profile.

"However, despite increased numbers of local landowners who now quietly go about destroying wheel cactus on their properties, there are still many property owners in the district who ignore their responsibilities to destroy noxious weeds.

"Most often, these are absentee landowners who are very difficult for our volunteer group to connect with."

Hence, the seed bank is never eradicated and new wheel cactus plants continue to germinate and invade the environment.



Cactus warrior Ian Grenda demonstrating how to inject wheel cactus plants.

The TCCG continues to seek improvements in control and management strategies and believe these non-complying properties need some form of enforcement.

In an attempt to discover how prevalent and widespread wheel cactus has become in Victoria, the group has gained valuable funding from the Norman Wettenhall Foundation to map

wheel cactus infestations within the state.

"We welcome reports from everyone who has seen wheel cactus growing anywhere in Victoria," said project officer collecting information and creating a map, Max Schlachter.

"Simply send a photograph of the plant (for verification) and description of the locality to mschlachter@outlook.com.au.

"We hope to compile this map by June, 2017, and then use this data to seek further support from government and funding bodies to control the invasion of wheel cactus."

- For more information about wheel cactus, contact the Tarrangower Cactus Control Group at info@cactuswarriors.org.

Community volunteers eradicating yellow crazy ants

WHAT do you do when one of the world's 100 worst invasive alien species are invading your territory and there is little in the way of outside help?

You mobilise your community volunteers of course!

An alarming new infestation of yellow crazy ants (YCA) was identified by residents in Russett Park near Kuranda, Queensland, in 2013, most likely transported in building materials from an infestation near Edmonton.

The new infestation was discovered only 400 metres from the World Heritage rainforest boundary and on the banks of the Barron River, increasing the risk that the infestation could rapidly expand and become uncontrollable.

Aggressive, acid-spitting yellow crazy ants typically attack earthworms, lizards, skinks, frogs, bird nests and any accessible sources of protein, and have been known to enter towns and homes in search of food.

If left unchecked they can form super colonies that can strip fruit trees and crops, and destroy rainforest

ecosystems, advancing hundreds of metres each year.

Local volunteer group Kuranda EnviroCare saw a need for quick, locally-led action in Kuranda.

They mobilised the local networks to create a YCA Community Taskforce with the idea "we're affected, we care and we're not waiting for someone else to get around to fixing it".

Biosecurity Queensland pulled back from an active YCA eradication program in 2012, when total eradication of this acid-spitting pest was no longer considered possible.

The infestation near Edmonton has since grown to more than 800 hectares, including areas within the World Heritage rainforests, surrounding cane fields and homes.

The Wet Tropics Management Authority (WTMA) took up the challenge of continuing the fight, as the rainforest was under threat.

Kuranda EnviroCare employed a taskforce co-ordinator with a grant from Terrain NRM, purchased equipment, and started training volunteers in baiting techniques, conducting delimitation surveys

and undertaking a range of regular monitoring programs.

"From small beginnings, the taskforce has grown to more than 100 people from the local community and surrounding areas," said EnviroCare president Cathy Retter.

"WTMA assisted with training and giving people the confidence to take on those aspects of the YCA eradication program which would normally be the role of scientists."

Information on YCA lifecycle was crucial to maximise the volunteer efforts, and a local community fund was started with \$5000 from Kuranda Envirocare.

Local crowdfunding provided \$5000 and the small local Kuranda paper tipped in \$10,000 to match community donations dollar for dollar.

Since so little is known about this acid-spraying pest in the Australian environment, this money has been used to ramp up the under-funded research by Lori Lach at James Cook University in Cairns.

Dr Lach said the community funding initiative was an indication



Yellow crazy ants eat a caterpillar.

of how seriously local people took the threat of yellow crazy ants.

"For a community group to raise these funds is really impressive," Dr Lach said.

"It's already making a difference because it's come at just the right time.

"This volunteer taskforce definitely punches above its weight given what we have achieved.

"Our volunteers contribute skills in ecology, vegetation management, machinery operation, administration, film, storytelling and poetry and journalism.

"We have called on all of these skills at some stage."

In exciting news, significant advances have been made and the yellow crazy ants may even have been eradicated from some areas within the far north Queensland World Heritage Areas.

Ant infestations are notoriously difficult to contain and eradicate, and several years of intensive monitoring will be required to validate these achievements.

- Visit kuranda.envirocare.org.au/yellow-crazy-ants.html.



Dingo diets do not discriminate

THE National Wild Dog Action Plan strategically assists communities in controlling wild dogs, encouraging local people to work together on wild dog control across the landscape.

Through co-ordinated, best practice management, there are also benefits for the management of foxes, feral cats and pigs.

Recent media has publicised a simplified message that dingoes control foxes and feral cats.

However, there is no proof that dingoes reliably suppress populations of foxes or feral cats.

Feral cats threaten 142 species with extinction, foxes with 76 and feral pigs with 149.

Wild-living dogs threaten 79 native species, ranging in size from marsupial moles to cassowaries.

Some species are threatened by just one of these predators, while others face a mix.

Their protection relies on best practice integrated vertebrate pest management.

Wild-living dogs of all types (including dingoes, feral dogs or dog/dingo hybrids), will eat an array of prey, including lizards, birds and mammals of all sizes.

They share some of this prey with foxes and feral cats.

They hunt individually for small prey (such as lizards, rabbits and mice) and medium-sized prey

(bridled-nail-tail, swamp wallabies and sheep), or in packs for large prey (kangaroos and cattle).

Failure to control each of the predators that act as a threatening process for a species will leave it at risk of extinction.

Wild-living dogs are adaptable and opportunistic when seeking their diet of native animals, livestock, carrion and even insects in desert, agricultural, forest, alpine or urban environments.

The unpredictability is greater where humans have provided permanent water, movement corridors, food sources and protective cover.

They can compete with foxes and feral cats for food.

People must be cautious with requests to use uncontrolled wild dog populations as a means of fox and feral cat control.

If predation is the threat to wildlife in a landscape, then logic says that while we continue to gather ecological evidence, all three predators should be controlled.

There is also the risk of premature withdrawal of active fox and feral cat control programs.

Public and private land managers might be attracted to short-term cost savings from concepts to use wild dogs to suppress foxes and feral cats.



The bridled nail-tailed wallaby is also under threat from feral, introduced animals. Photo: Driver Dave

The debate over methods for fox and feral cat control is clouded by opinions on conserving dingo purity; animal rights concerns about lethal control; injury and death of livestock; economic and mental health impacts on farmers, and threats to pet and human safety.

On a broad-scale, it would be counterproductive to undermine

the community landscape-based approach to managing wildlife problems.

Across Australia, communities are controlling wild dogs, foxes, feral cats and pigs in areas of environmental significance, in pastoral grazing country, sheep/cropping zones, high rainfall country, around urban areas, and in recreational areas.

They participate to protect wildlife and to enhance the welfare of farmed livestock (from poultry to horses) and the well-being of people.

Adopting the cautious approach, based on proof not concepts, will focus energies on the imminent danger to several hundred of our small native animals threatened by extinction.

Dart-administered immunocontraceptive trialled in kangaroos

THE ACT government and CSIRO are currently trialling a dart delivery method to remotely administer the GonaCon Immunocontraceptive vaccine to eastern grey kangaroos.

This project builds on research initially funded by the Invasive Animals Co-operative Research Centre, in which GonaCon was hand-injected to tammar wallabies and eastern grey kangaroos.

Those studies demonstrated very high efficacy in females of both species whereby no young were produced for at least three breeding

seasons and greater than 90 per cent of females produced no young for at least six breeding seasons.

While it was concluded that GonaCon could provide a viable method for controlling the abundance of small, captive kangaroo populations, because each animal had to be physically captured to inject the vaccine, a more practical method was needed.

The current trial, led and funded by the ACT government in collaboration with CSIRO, is testing the use of a remote dart delivery

method, which should provide a more efficient way of administering the vaccine.

A suitable dart has been selected, the humaneness of the method has been assessed and a temporary marking system has been trialled to prevent kangaroos being vaccinated more than once in a treatment period.

The trial in progress will compare the efficacy of dart-delivered versus hand-injected GonaCon, and investigate the overall effect of GonaCon treatment on the rate of increase of populations.



A collared kangaroo that has just been darted with GonaCon. After a few minutes the dart falls out and can be recovered. Photo: Lyn Hinds.



Dr Elise Furlan collecting water samples as part of the environmental DNA survey in Lake Sorell, Tasmania. Photo: Jonah Yick.

Environmental DNA helping contain and manage pest fish

ENVIRONMENTAL DNA, or eDNA for short, is a specialised technique which can detect small amounts of DNA that a fish may release into their environment, such as skin cells or faeces, avoiding the need to physically capture fish.

A one litre water sample is all researchers need to be able to detect the presence of invasive pest fish in our river systems, resulting in improved and tailored management outcomes for local catchment authorities.

Dr Elise Furlan, a post-doctoral research fellow from the University of Canberra funded through the Invasive Animals Co-operative Research Centre, has been working on European carp eDNA detection in Tasmanian waterways.

Working in collaboration with the Tasmanian Carp Management Program, she analysed samples from a known, low-density carp

population in Lake Sorell and from the site of a recently eradicated carp population in Lake Crescent.

The work has been extremely valuable to help understand how many water samples must be taken before a conclusion can be made that carp are present or absent in a waterway.

Both lakes were ideal for these trials due to their large sizes and isolation.

The low density of carp in a comparatively large water body is also a unique situation, and is good test of eDNA sensitivity.

This technique could be applied to confirm the presence of carp and other species in suspected waters while populations are small, as well as being a complementary technique for confirming the eradication of species from waters.

• Visit www.pestsmart.org.au.

Natural Australian toxin protecting plants and wildlife from predators

By Greg Mifsud, Invasive Animals Co-operative Research Centre

MANY people are unaware poison 1080 (also called sodium fluoroacetate) is the most environmentally sensitive and target-specific poison available to protect Australia's vulnerable wildlife and ecosystems from feral animals, because it occurs naturally in more than 30 species of Australian native plants.

Most native plants containing 1080 occur within the pea bush family of gastrolobium species, found mostly in Western Australia; some of the gidgee species of Queensland and the Northern Territory also contain this chemical. These plants evolved this compound as a defence mechanism to deter mammals and insects from eating their foliage and seeds.

Being a natural toxin, 1080 biodegrades quickly and is broken down into harmless compounds by micro-organisms and bacteria when exposed to soil and water.

The high target specificity of 1080 is due to Australian native wildlife's natural resistance to it as a toxin.

Australian animals have shared the landscape with plants containing 1080 for many thousands of years.

However, introduced mammals, such as wild dogs, foxes, cats and livestock, are much more sensitive to the poison.

These important natural characteristics of 1080 – its target

specificity and biodegradability – mean it can be used to prepare poison baits that target particular pest animal species, such as meat baits for the control of wild dogs and foxes.

The incredibly tiny amount of 1080 injected into each wild dog and fox bait is deadly to those species, but safe for native predators, including birds of prey like wedge-tailed eagles, reptiles such as goannas and the iconic spotted-tailed quoll.

Despite incorrect claims that 1080 is harmful to these native species, in reality they are all known to eat meat baits poisoned with the compound 1080 and survive.

This is because they are much more tolerant to the poison than the wild dogs, foxes or feral cats the baits are designed to target.

Spotted-tailed quolls, the largest marsupial predator on the Australian mainland, thrive in areas of NSW that have aerial baited wild dogs and foxes for decades.

Baiting reduces the risk of predation and competition for resources.

Intensive research undertaken within Kosciuszko National Park and the New England tablelands, between 2002 and 2005, showed spotted-tailed quoll populations were unaffected after individuals ate meat baits containing 1080.

The proof came from adding a special dye to the 1080 meat baits, one that could later be detected in their hair and whiskers of animals that had consumed baits.

The whiskers from resident animals trapped after the baiting



A young male quoll captured in Southern Kosciuszko National Park fitted with a radio collar as part of the aerial baiting trial.

showed many had eaten baits, with some individuals consuming up to five.

These same quolls were recaptured in following years and showed no ill effects from eating baits containing 1080.

As a result, in 2006, NSW National Parks and Wildlife Service overturned its ban on 1080 aerial baiting for wild dogs.

Rather than being harmful, 1080 is Australia's natural toxin.

It's target-specific, biodegradable, and an essential tool in the fight to protect Australia's unique wildlife and ecosystems from the impacts of introduced, feral animals.



Heart leaf poison bush (*gastrolobium grandiflorum*) is one of the many native pea plants known to contain sodium fluoroacetate poison.

Landcare leaders keeping the buzz going



A native beehive being restabilised into a new hive box.

CLARENCE Native Bees Landcare (CNBL) has recently developed and successfully implemented a new model on the north coast of NSW for protecting busy social pollinators and biodiversity specialists – the native stingless bees.

The model has taken nearly two years to achieve, beginning as a project idea, before nabbing a 25th Landcare Anniversary Grant and culminating in a series of workshops, training and consultation processes.

Working closely with Environment Protection Authority, Roads and Maritime Services and associated contractors, CNBL developed a protocol document to guide operational processes for rescuing native stingless bees along the 112-kilometre Pacific Highway realignment between Grafton and Ballina in northern NSW.

An integral part of this protocol is the knowledge and skills provided to clearing contractors and ecologists in the identification and removal of damaged hive nests from felled trees.

Primarily, fauna survey processes now also include identification of

native stingless bee hives, and any tree identified with a hive in it is also marked as a habitat tree.

Once trees are felled, the hive nests are removed by ecologists through a series of processes guided by the rescue protocols.

While the protocol may be guiding these rescue operations, it is the dedicated volunteers and their specialised knowledge that are making the real difference with native stingless bee rescues.

On continuous call and driving up to 100km several times a week to meet ecologists on site, bee rescuers readily exchange equipment for buckets of hives or small damaged logs.

Bee rescuers say re-establishing a hive can be tricky, as each hive varies.

Some hives have very few resources and others are loaded with sugar bags, which are a sticky affair and can become a real mess.

Other hives come with predators such as ants, beetles, and wasps that are individually removed before placing the hive nests into special positions.

Appropriate food resources and other materials associated with the pheromone of the hive nests are also placed alongside the hives into their allocated rescue boxes.

This technique will ensure the survival of the bees and the brood while the worker bees gradually rebuild their nest.

A specifically designed monitoring form is completed for each individual rescue with data recorded from the field, rescue, re-stabilisation and final relocation of hives.

This process is carefully co-ordinated by Laura Noble, who also places the re-stabilised hives with carers into areas that will promote their survival.

Carers will maintain the hives for up to 60 days or more until links and partnerships with community organisations and schools can be established.

Hives are then provided to schools along with volunteer support.

Email Susan Moore at susan.moore@clarencelandcare.com.au or contact (02) 6643 5009.



Biosecurity essentials for buying livestock

By Dr Pat Kluver, Livestock Biosecurity Network

BY FAR the greatest risk for the introduction of disease, weeds and pests on farm, is the purchase of livestock.

A good biosecurity strategy will go a long way in minimising the disease risk with purchased stock, and it doesn't have to be expensive or elaborate. It can be broken down into three stages:

- Pre-purchase
- Farm gate
- On-farm

STAGE 1: PRE-PURCHASE

Pre-purchase is all the background checks and physical examinations you do before deciding to buy.

It's simple - if the animals don't come with a cattle health declaration (CHD) or sheep health statement (SHS), don't buy them. These documents contain most of the history you need to do an initial risk assessment.

Only buy from reputable vendors, and limit the number of lots you buy - the more sources you buy from, the greater the risk. If you bought last year and were happy with the stock, buy from the same producer again, or buy direct.

You should examine the animals to make sure they have no diseases. If you're not confident

doing this, ask someone to do it for you. For sheep, look for evidence of lice or footrot, and for cattle look at general health and parasites.

STAGE 2: FARM GATE

When you get your livestock home there are a few things you should do straight off the truck:

For sheep, a footbath in zinc sulphate should remove any footrot bugs acquired in the saleyards or on the truck. However, if the sheep have pre-existing footrot, this footbath is unlikely to cure it.

All stock will need a quarantine drench to remove resistant worms. This must contain a mixture of four different actives for sheep, and three actives for cattle.

If your stock comes from fluke country, an effective fluke drench should also be given.

Keep them in the yards for 48 to 72 hours to allow them to empty out of existing worm eggs and then check them with a faecal egg count 10 to 14 days later to make sure the drench has worked.

STAGE 3: ON-FARM

Despite doing all the checks and induction treatments, new stock still pose a disease risk. Keep them segregated or isolated from other stock until you are sure they don't have any unwanted disease; observe them, let them settle into their new environment, and empty out of any weed seeds.

Stock in quarantine can be moved and can be drenched;



Biosecurity considerations should start before you buy livestock.

however, the golden rule is that other sheep can't cross their path for seven days. If they must be drenched, do them last, and no other sheep should go up the laneway or yards for seven days. If they need to be moved, other sheep can safely enter the old quarantine paddock after seven days.

Cattle need to be isolated for a month, and sheep until you know

they are free from lice or footrot, either at the end of spring and six months for lice.

When buying rams, they should come from ovine brucellosis accredited free flocks - never buy cull rams from saleyards.

When buying bulls, make sure they are vaccinated for vibriosis, (a silent venereal disease that causes fertility issues) and are negative for pestivirus (this

information is contained on the CHD).

Minimising the disease risk with introduced stock requires a little effort and some planning, but in the end costs very little and the returns are immediate, ongoing and cumulative.

- For more information on biosecurity visit www.lbn.org.au or www.farmbiosecurity.com.au.

Doing the important not the urgent: Biosecurity on farm

BIOSECURITY underpins Australian agriculture, but people are so busy running their farms they don't think about it - so says National Farmers' Federation's biosecurity taskforce chairman Ron Cullen.

Ron is an advocate for change in the way farmers think about biosecurity.

"People are a bit skeptical about taking the extra step and putting up a sign at the gate saying 'Please respect farm biosecurity, contact us before entering,' yet I am sure we all know how important it is," Ron said.

"Sometimes we see it as a bit of a luxury, until we get a pest or disease incursion, and then the message is reinforced that biosecurity is our insurance policy.

"But if we don't keep that insurance up-to-date, if we don't think about keeping pests and disease at bay, then we can pay a much bigger price."

It is crucial that everyone is aware that farms should only be entered by people with permission, to ensure they don't bring foreign material onto the farm.

"Our goal is to ensure that non-intensive farmers are just as aware of cleaning equipment, vehicles and personal gear before entering farms, whatever the enterprise, be they livestock or crops, orchards or vines," Ron said.

Risk management and biosecurity management are largely about prevention, especially because risks often sit outside the realm of known pests and diseases.

It's crucial farmers don't differentiate between exotic and endemic diseases on farm, as both have the same preventative measures.

"When you tackle endemic pests and diseases, you will also catch the exotics," Ron said.

For many, the term "biosecurity" invokes the idea of being something out there, something remote from our day-to-day activities, or something that is the responsibility of the federal government.

However, biosecurity is a concern for all Australians, both farmers and the general community. In our interconnected world, the question is no longer whether a biosecurity incursion will occur but when - as

evidenced with the recent spread of the red fire ant.

"Biosecurity is everyone's business - it ranges from macro-level international threats to ensuring profitability on farm," Ron said.

"We've been lucky for so long in Australia that we sometimes forget how important it is to have preventative biosecurity measures in place."

Engaging in preventative biosecurity measures also reduces future costs associated with managing weeds and pests that come from poor biosecurity controls, costing farmers thousands of dollars every year.

While prevention is critical, biosecurity breaches do occur from time to time, often for reasons outside of the control of farmers.

When this happens, it is vital to work in partnership to address the threat. The biosecurity response needs to be outcome-focused and should not attempt to allocate blame.

"It is important to encourage farmers and to give them an incentive to ring the Exotic Pests and Diseases hotline," Ron said.



Ron Cullen, Chair of National Farmers Federation's Biosecurity Taskforce.

"At present, some farmers may fear their property will be quarantined and they will lose their crops without receiving compensation, resulting in a low propensity to ring."

The task ahead for the NFF's biosecurity taskforce in 2017 is to consider how positive behaviour change can occur within the farming community.

"The A-B-C of on-farm biosecurity is that biosecurity has to be relevant, beneficial and cost-effective," Ron said.

"This includes better surveillance awareness and incursion preparedness.

"In short, it is about doing important preventative biosecurity measures, even when they are not urgent."

Awareness leads to deer management solutions

ONE of the main biosecurity issues Victorian landholders in the Upper Murray region have identified is the spread of wild deer who cause destruction on many properties.

Since 1997, the landholders have been involved in a catchment planning process, initiated by the Upper Murray Farm Tree group and Landcare groups.

The presence of wild deer was noted as having minimal impact at the time.

By 2013, the situation had changed dramatically.

Deer were identified by land managers as a pest animal in the agricultural and forest landscape, wreaking havoc on fences, pastures, and water quality.

One consequence of large deer numbers was the increase in illegal shooting.

Entry onto private land and the use of firearms around stock, shooting from roadsides, and the presence of deer carcasses left behind, was unacceptable to the local community and raised safety concerns.

The Upper Murray Landcare Network convened a Deer Management Information Forum and workshop, in September 2015 to hear about the status of deer, the role of government and hunting associations and identify local concerns to find out what land managers needed for better management of deer on private property and public land.

It was an open forum with speakers from the Game Management Authority, Australian Deer Association, Victoria Police, Parks Victoria and the Department of Environment, Land, Water and Planning who then participated in a workshop with the 75 attendees.

The presentations and deliberations at the forum resulted in key priorities:

- A central source of information for deer management on private land. Unreliable or no internet service and demographics were identified as a barrier to sourcing online information from different websites;

- Management options for reducing deer numbers;
- Legislation change to enable removal of deer carcasses after culling; and
- Better management of illegal shooting and anti-social behaviour.

As a result, a deer management information folder was prepared as a resource for private land managers.

'Private Property' and 'No Shooting' signs were produced and Rural Watch set up, an informal network where antisocial behaviour is notified within the network of neighbours and to emergency services.

Policy makers have been engaged to initiate legislative changes to allow carcass removal.

The actions of the community to tackle the problem of wild deer demonstrates the benefits of having long-term goals and broad community engagement.

Rather than waiting for someone else to act, which causes frustration and delays, it is appropriate for



Joe August, Tony Jarvis, Ross Cooper, Lyn Coulston, Constable Justin Tyers, Sergeant Liam McMahon, Leading Constable Andrew Green working together to control the impact of wild deer in their area.

people to find their own solutions, tailored to their needs.

Collaboration at ground level produces a practical resource.

Advocacy and collaboration at a government level seeks to address more complex issues.

The journey from 1997 to 2017 demonstrates that when a community is aware of real and emerging threats, the outcomes can be influenced by taking local action.

Fed up with feral pigs

By Sue Metcalf

IN the Chittering Valley, a beautiful region just north of the Perth metro area in Western Australia, the Chittering Landcare Group is working hard.

In collaboration with the Chittering Valley Land Conservation District Committee, the Bullsbrook Landcare Group, the Ellen Brockman Integrated Catchment Group and the Wannamal Lakes Catchment Group, the groups have prioritised combatting invasive species, particularly feral pigs.

Feral pigs uproot orchard irrigation, cause erosion by digging for corms, worms and other delicacies, and bring diseases. Many local residents had never seen pigs before moving in, but have now become familiar with the hairy, nasty, feral variety, with lice and ticks.

Small lot owners have no ability to manage invasive species on their properties. With no firearms, an inability to manage traps, and poisons not an option due to the close proximity of other properties, residents needed help.

In WA it's the responsibility of the landholder to control pests on

their land. The Chittering Landcare Group paid an accredited feral animal control operator to carry out a program.

Mr Malcolm McCusker funded training for six local people to become accredited feral technicians, duly licensed by the health department. This process enabled the Chittering Landcare Group to have access to highly skilled operators who have knowledge of all the required licenses, ethical animal procedures, advanced trapping methods and motion sensor camera monitoring.

To date, the group has successfully removed over 800 feral pigs from the



The dedicated hands of researcher Dr Peter Adams gently places a GPS tracking collar on "Arnie".

area. The Western Australian State Governments Royalties For Region Program, funded through the State NRM Office, has supplied ongoing money to employ the trappers to

successfully rid the region of a very invasive pest.

Contact Sue Metcalf for further information on 08 9571 0400 or by email on sue.metcalf@inet.net.au.



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A sustainable dairy industry

DIRECTLY employing almost 40,000 people and producing 9.7 billion litres of milk a year, the Australian dairy industry is undoubtedly a major linchpin of Australia's agriculture sector.

As with all elements of agriculture, sustainability is a key concern for dairy farmers, not just as a means of managing land, but ensuring their businesses are equipped to respond to a variety of challenges, including climate, extreme weather, energy costs and soil health.

Now in its third year, the Lion Dairy Pride Landcare Grants Program is helping Lion's dairy farmers address some of those challenges by funding projects that address reducing energy use, improving nutrient management or increasing biodiversity.

To date, the grants have funded the installation of variable speed controlled pumps in a number of dairies, resulting in energy savings of between 35 and 75 per cent.

Biodiversity has been increased through some farm projects, including one undertaken by Richard Smart and Trina Hole in Tasmania, which saw waterways and paddock corners fenced off, and

the planting of more than 400 native trees and shrubs.

These will eventually be established as shelter and shade breaks, resulting in increased grass production and a reduction in plant stress.

Queensland farm "Wilson Plains" is another enterprise that received funding.

Operating across 120 hectares, with 460 milking cows producing 1.5 million litres a year, in 2016 the farm used a Lion Landcare Grant to install energy-efficient solid set sprays to move water around the property.

This facilitated the irrigation of some marginal country with underground water to stimulate grass growth, resulting in a major increase in feed for livestock and a 65pc reduction in "cut and cart" feed that needed to be purchased.

As well as offering these grants, Lion has recently launched its new Dairy Pride Program, an online portal allowing its 400 dairy farmers to use an assessment tool to see how their operations measure up in five key areas: milk quality; animal welfare; people, community and wellbeing; the environment, and business management.



Dairy Pride is helping dairy farmers look at the health of their operations.

Lion Dairy and Drinks agricultural procurement director Murray Jeffrey spoke to *Landcare in Focus* about Dairy Pride and how Lion worked with dairy farmers and industry to develop the program.

"Our farmers have been partners in developing this online tool from the start," Mr Jeffrey said.

"Before we launched, we selected 20 farmers to give us

feedback, and following their advice, re-engineered some of the programs to suit certain aspects.

"The program was developed because we are committed to building a stronger, genuine partnership with our farmers.

"We also believe most of our consumers really want to understand what happens at the farm gate and what goes into

making a sustainable farmer and sustainable practice on farms."

In an industry where challenges are abundant and demand for product is increasing, initiatives such as Dairy Pride, which help farmers take an in-depth look at the health of their operations and offer real tools and knowledge on how to improve it, are going to become increasingly important.

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* The accommodation prize is to the value of \$1075 which will cover five nights in a one bedroom apartment at auto club member rates in off peak times. The winner will be able to upgrade their accommodation if they wish at their own cost.
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° Airport transfers are for travel to and from Sunshine Coast Airport to RACV Noosa Resort and return.