Welcome to the April edition of Upfront Outback!

Blood, bettles, coats and cactus

Just why the British Army wore red coats on the battlefield has been the subject of conjecture for some time. Some have claimed it hid blood better, while others say the very colour struck fear into the enemy. Turns out, it was probably economics.

In the days of vegetable dyes, red was the cheapest to use as it involved a single step process with an inexpensive raw material. Which is why the First Fleet carried cochineal beetles and their host cactus. The colony, and the soldiers providing security against the welcoming inhabitants and virtuous convicts, needed to be as self-sufficient as possible - they were a long way from an 18th century Target.

While we don't need red coats in western Queensland, we do have a burgeoning cactus problem, which is why the recent release of a species-specific cochineal beetle on Leander Station to the west of Longreach is such a big deal.

With the help of Desert Channels Queensland, property owners, Peter and Elizabeth Clark have been battling coral cactus for about twice as long as the 12 year campaign of Australia's first resistance fighter, Pemulwuy, against the forced occupation of his homeland around Botany Bay.

Leander's coral cactus escaped from a pot plant in a road building camp; it has since defied all efforts to subjugate it.

In an Australian first release, staff of Biosecurity Queensland placed Cochineal-infected nodes of coral cactus into healthy clumps of the plant thriving in the gidyea sandridge country west of Longreach.

The Cochineal beetle spreads on the wind, so it won't kill all coral cactus plants, but it's expected to roll most; the Clarks will need to spray the balance.

Unfortunately, this particular species of cochineal beetle only works on coral cactus, and not on rope cactus, hudson pear or any of the other opuntia or cylindropuntia species, but it does like hot, dry conditions, so it should thrive in the west.

The release was the culmination of four years of exhaustive laboratory trials by Biosecurity Queensland and the New South Wales Department of Primary Industries to make sure there is no danger to native species.

The same beetle has worked spectacularly well on coral cactus in a similar environment in South Africa, so there are high hopes the Leander site will become a 'nursery' from which infected plant material can be taken to other sites around the west.

Petitioning for pecos

Luckily we are only petitioning the Queensland and Australian governments for Aussie dollars and not Mexican pecos, or we would need ₱54.19 million per year for the next 10 years to achieve our goal of eradicating Prickly Acacia from our prime Mitchell Grass Downs grazing lands.

In Aussie dollars, it's only $4 million per year… still a lot of money, but let's take a closer look at a few numbers.

Why do we need $4 million a year for 10 years? DCQ has spent three years on R&D and the refinement of its techniques and technologies; we now have a good handle on a) how quickly we can treat Prickly Acacia, and b) how much Prickly Acacia there is across the Mitchell Grass Downs at the headwaters of the Lake Eyre Basin rivers.

Why is $4 million a year for 10 years a good investment? Graziers in the heaviest infested areas are spending around $100,000 per year on control, with no prospect of this diminishing. The last 20 years of traditional control work has seen the infestation area triple to 22 million hectares… continuing to do the same thing and expect a different result is Einstein's definition of stupidity - read 'poor investment'.

What do weeds really cost? Australian Government figures indicate that weeds cost agriculture in this country $4 billion per year, with an additional cost to the environment of at

least another $4 billion. Feral animals cost Australian agriculture $743 million per year, with wild dogs costing Queensland anywhere between $33 million and $67 million per year.

Why mention wild dogs? Interesting point… Governments found $14 million for wild dog control in the past year, but only $1 million for Prickly Acacia control, which is about the same as what 10 graziers spend in a year. By the way, according to the Australian Government, wild dogs cost individual landholders as much as $7,200 per year.

Prickly Acacia reduces carrying capacity, destroys native habitat, causes erosion and reduces water quality, consequently driving properties into drought earlier than otherwise - with 50% canopy cover, no grass grows.

Over the past three years of drought, our trial site has shown:

- 600% increase in grass coverage
- 500% increase in grass biomass
- 300% increase in grass species

Over the same period our new generation techniques and technologies have delivered:

- 800% increase in efficiency
- 92% reduction in costs

We think what we are asking is reasonable in light of the potential return on investment. If you agree, sign our petition at
https://www.communityrun.org/petitions/protect-our-grazing-lands-eradicate-prickly-acacia

The death of logic

For the past 20 years, the Government recommended approach to Prickly Acacia control was ‘containment’, that is, taking action to prevent the weed from spreading beyond a predefined area. Under this strategy, the area of Queensland infested by Prickly Acacia has more than tripled from 6.6 million hectares to 22 million hectares.

Therefore, you can imagine the dismay generated by the recent draft Queensland Weed and Pest Management Strategy which recommends expanding the Prickly Acacia containment area and continuing with the same strategy. It also recommends no investment in control work inside the containment area.

The commonly quoted definition of insanity is ‘doing the same thing over and over again, and expecting a different result’. If we keep doing the same thing and Prickly Acacia triples every 20 years, it won’t be long before our highly productive and prized Mitchell Grass Downs is an African thorn-veldt.

We have to do things differently… there is no other option!

Fortunately, DCQ has shown, with its revolutionary program, how to eradicate Prickly Acacia. Landholders have embraced the program, it just needs the acceptance a support of governments.

Failure is not an option.

Pounding the pavement

DCQ’s office is 1,000 kilometres from Brisbane, and if we need to get there in a hurry, each one of those kilometres costs about 50 cents to cover. Consequently, Leanne Kohler, our CEO, makes the most of her forays to the ‘Big Smoke’.

Her latest trip was for meetings of the Regional Groups Collective, but she managed to squeeze in several briefings of politicians and Agforce.

Armed with a roll of maps, briefcase full of photos and briefing notes, and heart full of passion, Leanne beat out a stiletto staccato on the footpaths of Alice and George streets as she updated Charles Burke (CEO) and Grant Maudsley (General President) of Agforce, Rowell Walton (Research Officer) at Robbie Katter’s office, Andrew Cripps (ex-minister of Natural Resources and Mines), Leanne Donaldson (Minister of Agriculture) and Anthony Lynham (Minister of Natural Resources and Mines) on the progress of our Prickly Acacia program.

There might have been a few entreaties for additional funding in there as well.

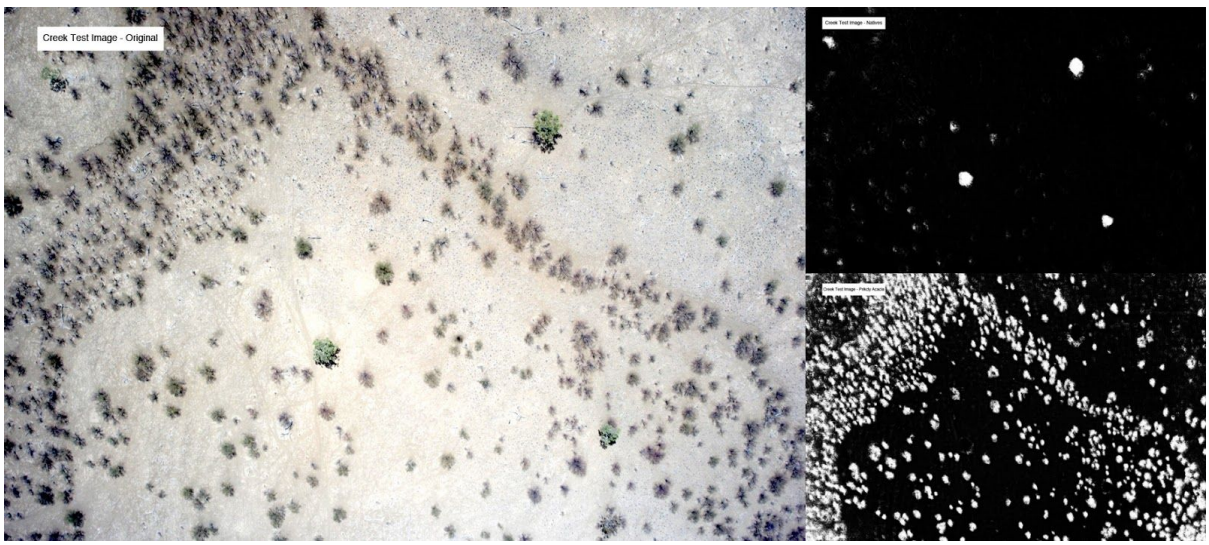
Move over Mars Rover?

If you have Prickly Acacia, the Mars Rover may be coming to a paddock near you! It sounds far fetched, but on a recent visit to one of our Prickly Acacia sites, Torsten Merz from CSIRO and Andrew Hayes of Mawson Robotics likened a robotics prickly acacia mission to the challenges of the Mars Rover - remote from communications with extreme heat and terrain.

Torsten and Andrew made the analogy on their recent Longreach recce to learn more about Prickly Acacia infestations and current control techniques. They also discussed how autonomous robotics might help us eradicate Prickly Acacia from Queensland's prime grazing lands, the Mitchell Grass Downs.

While we all know CSIRO, Mawson Robotics is a new company set up by Brisbane entrepreneur, Stephen Phillips who founded music search company, We Are Hunted in 2007, and has since worked for Twitter. Their aim is to identify industry problems where robots can assist, then partner with universities and others to turn new technology into amazing solutions.

They aren't making any promises, but… watch this space!



Small steps; giant leaps

Never ones to rest on our laurels, we have opened up a new front in the war on Prickly Acacia with the help hi-tec aerial surveillance and a partnership with the Australian Centre for Field Robotics (ACFR).

Using the catapult launched and parachute recovered surveillance drone of our industry partner, PBE Services, we take aerial images of a property, then stitch them all together in a computer program. The resulting image is then scanned by the ACFR computers with their classification algorithm, which has been 'trained' to recognise the characteristics of prickly acacia.

The result is one image showing prickly acacia and another showing native trees. From these two images, we use our spatial information software to create a map of the property detailing what treatment method will be used where, as well as the total areas involved. For example, areas with native trees require time-consuming basal bark spraying, where ones without natives can be rapidly treated with residual chemical pellets.

These accurate maps allow us to plan time and cost budgets for individual sections, as well as the whole property, and become the record of where follow-up treatment is required in subsequent years. For example, areas that are basal barked will have high germination rates once the parent trees die, while areas treated with residual chemicals last three to four years and terminate several germinations.

The other little piece of magic from the guys at ACFR is that their amazing program can plot the most cost-effect route around the paddock for the ground crew to reach each of the prickly acacia trees for treatment.

One small step for technology; one giant leap for prickly acacia eradication.

Oily rags and shoestrings

Our latest feral pig cull is slightly different to past years: funding and staff cuts have gutted our capacity to run these programs internally, so we've had to outsource the whole kit and caboodle. The very capable Tim Rayner of Queensland Helicopters will be running the project from landholder contact, right through to completion.

Weather permitting, the aerial cull will run from 7 May to 22 June and cover Windorah to Prairie and Torrens Creek on the Cooper system, Monkira to The Avenue on the Diamantina, and from Cluny to Linda Downs on the Georgina. We'll also be taking another run over 12,000 hectares of high value environmental sites in the lower parts of Cooper and Farrar creeks, and Diamantina River.