



SAVANNA LINKS

Cooperative Research Centre for the Sustainable Development of Tropical Savannas

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Pigs in the Savannas: Disease Threat

In the Wet Tropics feral pigs are a menace because of their impact on the rainforest. But feral pig specialist Dr Jim Mitchell says their impact on the savannas could be profound – because of a disease that would be catastrophic if it got into the country: Foot and Mouth.

SL: Why are feral pigs such a risk with Foot and Mouth disease in the savannas?

JM: Pigs are seen as a Foot and Mouth “factory”, they propagate the disease in the body and breathe it out into the air. In other words, they multiply the virus and spread it everywhere. And pigs in the dry savanna have a huge home range, especially during the dry season so they have the potential of manufacturing the virus and spreading it over large distances. Because it’s so vast, some estimates say that it could be up to eight months that Foot and Mouth disease could be in the Cape before somebody found it.

SL: Is the risk of a Foot and Mouth disease outbreak increasing?

JM: I think the risks are getting higher and higher, especially with the movement of people to and fro from different parts of the world. There’s plenty of instances of people like backpackers buying the food overseas that could be contaminated with Foot and Mouth disease (meats like salami could contain beef from infected cattle) and then bringing it illegally into Australia. Even here in Cairns in the wet tropics people come here from all over the world, they land in Cairns airport, within a few hours they’re in a backpacker hostel, right in the middle of the rainforest. It’s quite easy for their food scraps to be thrown out the window right into the pigs. So there’s a good

flow of disease through that system.

SL: How do you monitor whether Foot and Mouth is getting in?

JM: By testing the pigs and checking the pigs as often as possible, to try and find the disease as soon as it outbreaks, then it’ll be more easier to control.

SL: How effective are current management strategies in doing that – keeping the surveillance effort up?

JM: I think they’re not very effective – especially in the dry tropics. AQIS (Australian Quarantine and Inspection Service) does some testing up in Cape York but the virus could outbreak anywhere in the dry savannas for a lot of reasons and you’d never know the outbreak was there for quite a while.

SL: So how do you increase that surveillance level?

JM: Good question. I think it’s probably awareness – landholder’ awareness of what to look for basically. I think a lot of landholders in the dry savannas probably wouldn’t know what Foot and Mouth looked like in a pig (see box). I think government departments have to push the exotic disease threat a bit more – especially in the education and extension to landholders in what to look for and how to react in the situation.



Feral pigs: the savannas' lurking menace

Photo: Jim Mitchell

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GIS data brought together on the Web

One hit on the Internet will now take you to the Australian Special Data Directory with more than 3500 datasets of spatial and geographic information.

The directory provides access to data catalogues held by many Australian Government agencies via the World Wide Web.

The extent of geographic or spatial information available about a particular area can now be gleaned from the one inquiry.

Parliamentary Secretary to the Minister for Industry, Science and Resources, Warren Entsch said it would prove beneficial for resource and environmental managers, researchers, planners and others who rely on geographic information to do their job.

The directory provides direct access to more than 3500 datasets distributed throughout Australia

through a simple method of search, discovery and retrieval of spatial datasets.

“The directory has been in prototype mode for almost a year now, averaging 2000 hits per month,” Mr Entsch said.

“This is expected to grow as knowledge of the service becomes more widely known.”

The development of the directory by Commonwealth and State Government agencies was coordinated by the Australian Surveying and Land Information Group, Environment Australia and the Bureau of Resource Sciences.

The directory is an initiative of Australia’s peak land information forum, the Australia New Zealand Land Information Council.

– Department of Primary Industry & Energy
Website for the ASDD is
<http://www.environment.gov.au/net/asdd/>

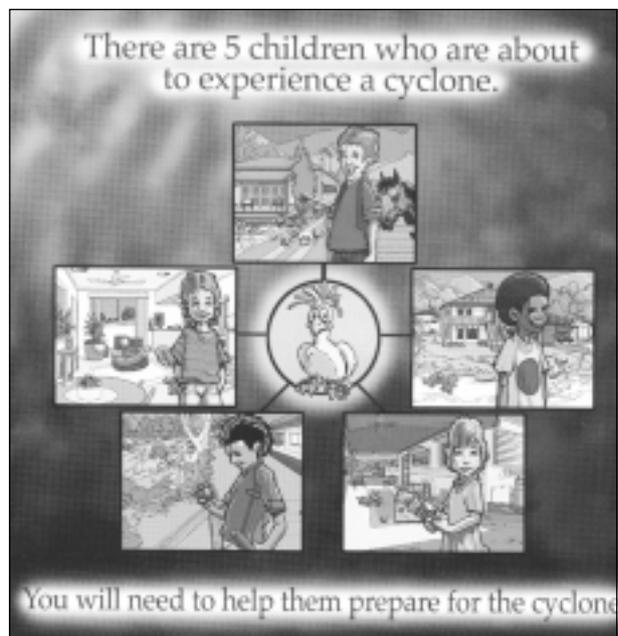
The Tropical Savannas CRC is also developing GIS datasets for its own Website as part of its Clearing House project. The Clearing House will be launched around March next year and will feature information on a wide range of land management issues in the north.

However, Tropical Savannas CRC’s Website recently underwent a revamp so don’t wait until March to visit!

It now has information on its research, publications, education, training and links to workshops, conferences and events as well as an array of links to other sites of relevance to the north. *Savanna Links* is also available on the site.

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School kids become players on the storm



These five children are about to experience a cyclone. You will need to help them prepare. So begins the CD game *Stormwatchers*, produced in the north to help Queensland children cope with northern Australia’s annual cyclone season.

Produced by the Centre for Disaster Studies at James

Cook University, the CD was the brainchild of Linda Berry, who conducted surveys at households in Cairns’ northern beaches, and found that the level of awareness in preparing for cyclones was uncomfortably low.

The five characters each live in a different setting and have different challenges in preparing for the cyclone. The game is played by choosing which items need to be stowed away and what survival items are needed – all while keeping an eye on the hourly cyclone updates where you can map the cyclone as it moves closer to the coast. There is real-time film footage of cyclones and flooding rivers and a cyclone quiz is a fun way of finding out how storm surges happen and what a tsunami is.

The CD is aimed at primary school children, but many adults could also learn from the game. It was distributed free to schools throughout Queensland and the Centre is now considering applying for funding to produce a similar game for the whole of northern Australia.

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Bureau of Meteorology
<http://www.bom.gov.au>
Hurricane Central
<http://www.storm97.com>

Researchers strike water at Howard's Hideaway

These happy-go-lucky researchers from the Tropical Savannas CRC, Tony O'Grady (left) and Lindsay Hutley (right) completed evaporation measurements recently from a typical savanna open forest of the Top End. The pair work within the CRC's project on water fluxes.

To mark this event and leave a lasting legacy for the CRC, this impressive sign was erected during the last field campaign. The shot was taken in the catchment of the Howard River, near Darwin. The next issue of *Savanna Links* will feature an



Photo: Man Ray

Mr O'Grady and Dr Hutley (sporting deluxe researcher footwear)

article describing the hydrological setting of such catchments. It will also look at implications for water

resource management in the face of increasing use of groundwater.

From our Water Project Correspondent

Pig Disease Time Bomb

Continued from Page 1

SL: Apart from the surveillance what about actual population control? Is a factor here that in the savannas pigs are seen as a resource, because there's a good market for the meat?

JM: Yeah, the wild hog market. Australia is the largest exporter of wild hog meat in the world at the moment. It exports to Germany, Italy and France and makes a lot of money over there. It's worth around \$20 million to Australia each year and something like 300-400 thousand carcasses a year leave Australia.

SL: So does that dependence create problems if you're looking to reduce numbers of pigs for other reasons such as disease and environmental impact?

JM: For sure: once an animal becomes a resource it tends to be farmed and so if it's worth a lot of money they'll let the females go, or they'll let the little ones go because they know it'll be worth money the next year. But not everybody treats them as a resource; there's a lot who just want to knock out the population. Some of the other options in the dry savannas are aerial baiting which would be the most cost-effective.

SL: So do you think that's the way to go – to have a mix of some people using pigs as a resource and some people eradicating them? Will that work?

JM: Look, there are vast areas of the dry savannas that don't see any pig control whatsoever. I think until we educate the landholders into what sort of problems pigs cause – which people don't see – I don't think we'll have much effect on the populations at all. Until we get landholders on side.

Feral Pig Facts

- The last population surveys in north Queensland were carried out 12 years ago which showed around two million pigs in the Cape. Jim Mitchell reckons there may be a similar number in the Top End of the NT. In the past 12 years he reckons the population may have remained static or is slowly increasing.
- A feral pig sow can have up to two litters a year of 10 piglets each. That is, a maximum of 20 offspring a year! In good seasons you have to cull the population by 70 per cent every year just to keep a lid on the population.
- Symptoms of Foot and Mouth disease in feral pigs include a funny walk and blisters around the mouth, tongue and feet. If landholders see such signs they should contact a vet immediately.

Related Information:

- Website on feral pigs in Cape York Peninsula
http://kaos.erin.gov.au/states/cyp_on_/reports/lup/weedap1.html
 - General information on feral pigs
http://www.agric.wa.gov.au/agency/Pubns/infonote/infonotes/feral_pig_biology.html
 - Two books from the Bureau of Rural Sciences:
<http://www.brs.gov.au>
Sustainable use of wildlife by Aboriginal peoples and Torres Strait Islanders M. Bomford, J. Caughley (eds) 1996. (\$24.95); *Managing vertebrate pests: feral pigs* D. Choquenot, J. McIlroy and T. Korn 1996. (\$24.95)
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Creative approaches to Native Title

Are land claims and purchases the only ways to address Aboriginal land needs? *David Epworth* puts forward some alternative approaches that are equally relevant for non-Aboriginal people struggling with viability in the tropical savannas.

All Aboriginal peoples want access to their traditional lands. In most cases these needs will not be addressed through the claims processes and the only option will be to buy some of it back. Although some money is available through the Indigenous Land Corporation there will not be enough to attend to the needs of all groups.

One way around the problem may be not to buy land outright, but rather acquire a subset of the rights to that land. Cost of full ownership primarily reflects the land's economic value and provides a very large bundle of rights and responsibilities, well beyond those needed for a principal economic activity. It may be possible to acquire a significant subset of these rights, those which are not of direct economic benefit to the landholder, at relatively little cost.

This approach to acquisition of rights in land may be appropriate where: *The cost of significant areas of land is prohibitive*. For example, in extensive grazing regions holdings are large. Although the cost on an area basis may be low, the total cost of acquisition is high.

Significant land is unavailable on the open market. In the more intensive areas, such as the cropping and irrigation regions or close to towns, land values are high for small parcels. In these areas limited budgets may restrict acquisitions to one or two small parcels that would not satisfy the needs of a particular group. In these areas Aboriginal peoples' economic development needs may not be best addressed through land-based production enterprises.

Full acquisition is inappropriate. Commercial interests in land may be low in the hierarchy of rights which traditional owner groups wish to re-establish. Or, if given the

options of full rights over a relatively small area or the majority of rights over large areas but excluding existing commercial uses, groups may elect to pursue the second option.

How shared land rights might work

The acquisition of a subset of rights may take many forms. For example, it may be possible to acquire the rights over a particular parcel of land to traverse, fish, hunt, camp, erect dwellings, manage land, operate non-competitive enterprises, etc. This is a commercial version of the access agreements which are emerging throughout Australia.

Alternatively, Aboriginal groups could acquire the existing title to land and then license other people to carry out particular activities, such as grazing or operating tourism ventures. Aboriginal people become the lessor rather than the state.

In some situations an indigenous organisation (such as the Indigenous Land Corporation) may become the landholder and grant two or more sets of rights, one to traditional land owners and the others to producers for commercial operations.

One of the prerequisites for shared land rights being put into practice is that producers conceptually separate their involvement into three areas: operating an enterprise; owning real estate; and enjoying a particular lifestyle. The real estate component

of their investment normally requires the greatest capital investment and returns very little to the overall operation. There are an increasing number of producers who understand that they can continue to pursue the other two components of their operation, their enterprise and their lifestyle, without the large investment in land ownership.

It is apparent from the activities of groups such as Rural Landholders for Co-existence and discussions with pastoralists that there are landholders willing to enter into such arrangements. Large pastoral companies are leading the move to diminish the investment in real estate in order to maximise their productive capacity and improve the return on capital employed. There are already Aboriginal groups who currently hold land negotiating license arrangements with producers to bring their country back into production and to return a profit to their people without the pressures of operating a commercial enterprise themselves.

Of course, these strategies would not apply where the existing title to land does not confer exclusive possession to the title holder (where the desired rights are held by the State) such as under some pastoral leases. In these cases the Native Title Act and state regimes as well as political processes will continue to be the best avenues for Aboriginal people to address their land needs.

David Epworth is a consultant who has worked with Indigenous groups in Cape York for the past six years. He is a member of the CRC's Consultative Committee
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More Information:
ATSIC
<http://www.atsic.gov.au/main.htm>

Native Title Research Unit
http://www.aiatsis.gov.au/ntru_abt.htm
The CountryWeb (a newsletter for rural women and their families)
<http://www.agric.nsw.gov.au/rwn/cweb/october-1998/native.htm>

Northern Land Council
<http://www.ozemail.com.au/~nlc95/index.html>



Photo: Peter Johnson
The population of this small community of bridled nailtail wallabies is steadily increasing. The project began with 12 animals but has now increased to 32.

Mine builds a halfway house for rare, threatened wallabies

In a partnership between conservation and mining, the Gregory mine in central Queensland is turning land adjacent to the mine into a “half-way house” to help re-establish the endangered Bridled Nailtail Wallaby.

The small, beautifully marked wallaby draws its name from a bridle marking on its shoulders and a “nail” at the end of its tail (see above).

The project by the University of Queensland, Centre for Conservation Biology, part funded by BHP Coal, began three years ago and recently scored a success with the release of six of the wallabies into a large enclosure built at the mine. The 3 km-long “half-way house” encompasses about 50 hectares of grassland and old brigalow growth and keeps the animals safe from predators.

The wallabies, now sporting radio-tracking collars, were released from a smaller holding pen where they have been under intense observation

by a research team led by conservation biologist Dr Carl Rudd from the University of Queensland.

Over the past three years, Dr Rudd has worked on the animal’s genetics, breeding and general physiology and food requirements. The six released in December are having their location tracked so Dr Rudd can see which areas in the enclosure are being used by the wallabies.

According to Peter Roe, BHP Coal’s Environmental Services Manager, once the habitat needs for the wallabies are known, rehabilitation of the mined land may be tailored to accommodate them. “The thinking is that eventually there won’t be any predator-proof enclosures protecting the animals,” he said. “They’ll just be fauna on mined land and surrounds.”

The bridled nailtail once occupied habitats from the Murray River in Victoria to Charters Towers in north Queensland. But with the advent of more than a century of land clearing

and pests such as foxes, there are only an estimated 600 wallabies left.

“It is indicative of what’s happened to a lot of our small wildlife of half to five and a half kilos,” said Dr Rudd. “They are either extinct or there has been a massive reduction in range and numbers.”

Land clearing is a huge issue and BHP’s strategy is now moving towards rehabilitating land with native species rather than just improved pasture species for grazing.

“The drive to rehabilitate mined land to pastures is actually a legal requirement on some of our mines,” explained Mr Roe. “But we also perceive that as a result of the large-scale clearing, there is an opportunity to return some native ecosystems.”

It was Peter Roe who first thought of helping an endangered species at the Gregory minesite. He had seen publicity about the bridled nailtail and its threatened population status. At the time, BHP was interested in developing a native fauna component in its rehabilitation strategy.

“I started looking around to see if there was any research that might be able to assist us with the fauna component of developing native ecosystems.” He describes the current project as more actively involved with rehabilitating native fauna. “We can assist with (the wallaby’s survival) as well as getting some clear indications of the habitat requirements for a native species,” he said. “It also gives us a lead on what other habitat requirements that may be needed for other species.”

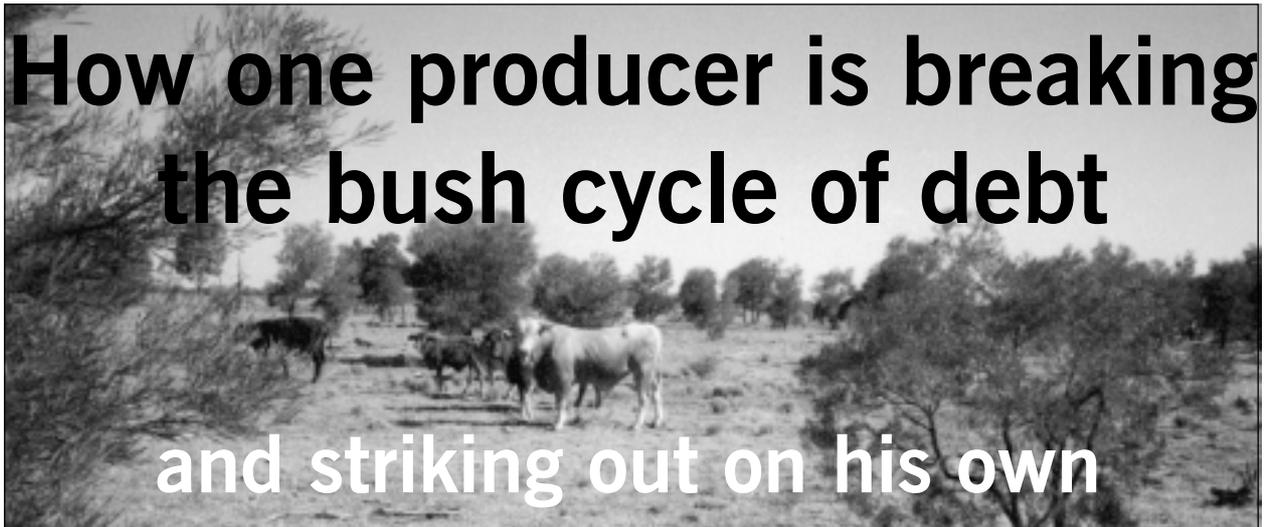
The next move may be to bring in wild stock from Taunton Scientific Reserve, near Dingo. “If we capture another six animals and bring them to Gregory that brings instant diversity in the breeding population,” said Mr Roe. “I don’t know what numbers we’ll have in another couple of years!”

Boost for Star and Crimson Finches

Two of Australia’s rarest finches have received a boost with the appointment of Michael Todd to study White-bellied Crimson Finches and the Cape York Peninsula population of Star Finches. Michael is working for the Queensland Department of Environment and Heritage on the granivore project of Tropical Savannas CRC. In Queensland, the finches appear to be confined to two small populations on the east and west coasts of the Cape York Peninsula.

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Photos: Dennis Fahey

“Keen-Gea” in 1979 – heavily timbered, lightly grassed and supporting few cattle

This article shows how a Desert Uplands grazier developed and managed his land resources to achieve sustainable production on the rangelands. The trade-off was a reduction in Black Gidyea scrub – the article shows both the pressures and aspirations of the grazing sector which will have to be taken into account in any plans for wider ecosystem sustainability.

In the early 1990s after Dennis Fahey had implemented sustainable management strategies at the family cattle property, he was told that he had been “lucky to have a lot of grass left” and that “he must have had a lot more rain than anyone else”. But it had nothing to do with luck.

Like most people during the 1980s the Faheys ran the property, “Keen-Gea”, to the limit. However high stocking rates had resulted in excessive running costs, the creation of a man-made drought, increased sucker re-growth because of the lack of fuel for fires, high cattle death rates and degradation of pastures.

By 1989 stock numbers were dwindling as the Faheys tried to keep up with costs. “In hindsight, our high stocking had only created bigger problems,” said Dennis. “Things came to a head in 1989 when we realised that our dwindling stock numbers soon wouldn’t cover our rising running costs due to drought and supplementary feeding.”

Reduced Stocking Rates

They sought and got a re-financing package with the bank, reduced their

stock to the level recommended by the then Department of Lands for their property, and embarked on a major change in managing their pastures.

Useful rain in November 1989 and six months grace before the new loan repayments had to be made was the break the Faheys needed.

Dennis emphasises that turning around a property with management problems is not achieved quickly – 10 years later the changes are still going on, but the property now has a future with plans for selling carcasses direct to overseas markets. “We saw improvements within six months, but the transition period can take up to 10 years,” said Dennis.

The results of reduced stocking rates were healthier cattle, higher

fertility, a high weaning percentage and low breeder deaths, and the options to develop new markets.

Running costs were also greatly reduced, pasture yields on the forest country increased with a return of black spear and kangaroo grass. The black soil grasses hadn’t been quite as degraded, so they returned to health more quickly.

Pasture Management

However, it is pasture management that Dennis attributes the turnaround of “Keen-Gea”. “It all comes down to understanding how much grass a cow eats,” he says. “Once you work that out you can improve everything. The initial building block is to get a handle on the paddock, then you need

“Keen-Gea” is a 19,000 ha cattle property situated 90 km south of Torrens Creek run in conjunction Dennis’s wife Jan and two children. The 95-year rainfall average is 510 mm. The property is situated on the change between the Forest/Desert country with sandy and duplex soils to the north and east, and Plains/Blackwood/Gidgee scrubs with black and

brown clay soils to the south and west. This variation in land, soil and timber types was one of the reasons the Faheys purchased “Keen-Gea” in 1978. The QDPI originally rated the carrying capacity of the property at 1400 head (1:13:5 ha). Pulling and planting buffel on about 11,000 ha of Blackwood (*Acacia argyro-dendron*) has increased this carrying capacity to 3000 head.



ambition and confidence in what you are doing and nothing will stop you.

“We use a system similar to QDPI’s Grass Check, but because we are cattle producers the values we put on certain grasses differ from technical opinion.”

The Faheys use the Percentage of Preferred Pasture system that puts a value on the grasses cattle prefer. They also have in place a detailed quality assurance program for pasture quality.

Originally the Faheys spelled paddocks for a year or so with some good results. Areas of claypens started to re-grass without any input, and grass increased in all paddocks.

However, locking up a paddock still left the station one paddock short. Unless stock numbers were reduced to compensate, other areas must then be over-stocked. In 1993, the Faheys tried a

new strategy of stocking two paddocks at 75 per cent of their safe rate to overcome the problem. Results were a calving rate among maiden heifers of 100 per cent with 6 per cent bulls. Dry cows in fat

scored three-four (a condition of measure with four the highest) and were still fertile at the end of October.

The marketing edge of this strategy was that with running costs reduced, cattle and pastures in good health, and being only 75 per cent stocked, there was always ready feed and room if a stock deal came along.

“Nowadays, we have better management, better everything,” said Dennis. “We don’t use supplementary feed at all, and have no need to use chemicals to worm or lice the cattle.”

The Faheys have cleared 11,000 hectares since the early 1990s and they are now running 3000 head, but according to Dennis, this a safe carrying capacity for the property. The family hasn’t introduced any new grass species as yet, but say the palatability of native grasses has improved.

“Wire grasses for example are classed as inferior,” explains Dennis. “But once timber is removed they become quite palatable.”

Value-adding

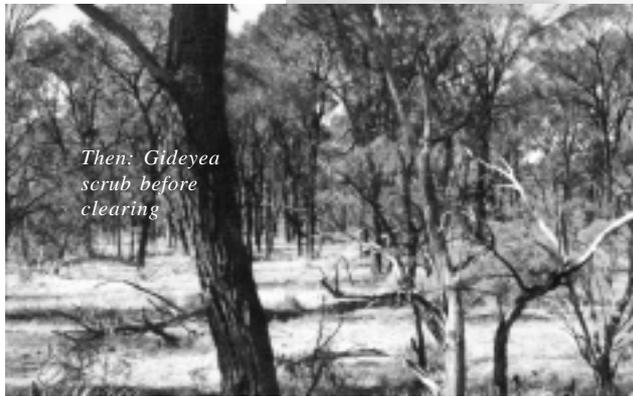
Things have improved so much in fact that the Faheys are now value-adding to their original business. Five years ago they began stocking one of the most in-demand cattle breeds in the world: the black domestic Japanese Wagyu. This breed commands very high prices in the Japanese

market, and the Faheys plan to sell direct to that market in the near future. Wagyu has a very intra-muscular fat (which produces a marbling effect) and is known for its high quality. It is extremely popular in Japan, and the higher the marble carcass yield, the higher the price.

By selling direct, the Faheys retain ownership of the cattle – something very few graziers get to do. It is a major change in direction and one the Faheys hope will be very lucrative.

“We’re sick of being the “peasants” providing meat for the towns at below the cost of production. It puts pressure on us, and puts pressure on our families.

“The cost of producing a kilo of beef is around \$1.50 live weight, but the return is 90-110c per kilo. Personally, I would love to see a revolt by withholding supply!”



Then: Gideyea scrub before clearing



Now: Black Gideyea country after clearing. This land is producing 2000 to 4200 kg (dry matter) of native pasture

Wagyu can command up to \$15,000 a carcass compared to the \$800-\$1000 per carcass of the best Australian breed. “It is near impossible to make the changes that we have done,” said Dennis. “Our venture into reduced stocking rates was forced on us by the run of dry years and bad management, so we had little choice but to make it work.

“Producers know how to make the changes, but are constrained by the banks and other financial institutions that are only interested in cash flow. Graziers are asset-rich, but broke.

“They have no resources to put in changes.”

Based on interviews with Dennis Fahey and the article *Changing Grazing Management on “Keen-Gea” – The Strategies and Findings - A Producers Experience* by Dennis Fahey

“Keen-Gea” Torrens Creek, Qld, 4816 Tel/Fax: (07) 4741 7184

Related Information:

A Guide to Better Pastures for the Tropics and Subtropics L.R.Humphreys and I.J.Partridge. Also available on QDPI’s

Website: <http://www.dpi.qld.gov.au/pastures/Welcome.html>

Intensive Livestock Environmental Management Services

<http://www.dpi.qld.gov.au/ilems/Welcome.html>

Tree Management on Leasehold Land

Queensland Department of Natural Resources

http://www.dnr.qld.gov.au/forestry/tree_management/index.html



Rubbervine fire trials reap killer results

A blazing, white-hot fire that turns rubbervine to ashen “snow” is beating infestations of the destructive pest plant in the far north of Queensland.

Researchers at the Queensland Department of Natural Resources recently trialled large-scale burns as a means of managing the invasive weed on the cattle station Wrotham Park, 70 kilometres west of Chillagoe. The trials have been some of the most successful undertaken for controlling rubbervine.

Although prescribed burns took place at Wrotham Park two years before the trials were started (in 1997), researchers believe the trials have proved burning is a viable option for large areas.

Within the experimental plots, the first burn produced a rubbervine kill of 80 per cent. However, if that first burn was followed up with a second burn 12 months later, 99 per cent of the weed was killed.

“The trials have shown the follow-up burn is essential. If a follow-up isn’t done, the 20 per cent of the weed that is not killed will regenerate from the base,” project leader Dr Faiz Bebawi said.

Wrotham Park manager Henry Burke agreed the results of the trials were outstanding. “Fire is proving to be the most successful and economical way of controlling rubbervine,” he said. “From this experience we’ll continue to use this strategy to control the rubbervine.”

It is believed rubbervine was introduced into Australia as an ornamental shrub in the late 1800s.

The weed, which is declared in Queensland, first invades waterways where seeds germinate in moist silt layers after rain. The plant smothers riparian vegetation and forms a dense thicket. This degrades the native vegetation and prevents access to both stock and native animals.

Infestations expand outward from waterways, colonising hillsides and pastures, which results in loss of land



Photo: Faiz Bebawi

Burning rubbervine at Wrotham Park in November produced a 100 per cent kill rate

for grazing and difficulty in mustering stock. Dr Shane Campbell, who also worked on the trials, explained fire trials were carried out on rubbervine that had previously been infected with rubbervine rust disease.

This disease was first released in Queensland in 1995. It causes heavy infection in the weed resulting in defoliation and reducing seed production. However, it does not kill established plants.

“The presence of the rust disease appears to have contributed to the success of the fire, and the amount of rubbervine killed,” said Dr Campbell. “Rust reduces the vigour of the plants, making the plants more susceptible to fire as well as enabling more pasture growth and therefore an increased fuel load.”

The prescribed burns took place over two years – the first in October 1997 over an area of 16 square kilometres. Some areas were left unburnt to allow for comparisons.

“The purpose of the trials is to gauge the success of fire as a weed management strategy to control rubbervine infestations that spread over a large area,” Dr Bebawi said.

He added that fire was the most economic means of control for landholders with large tracts of rubbervine infestations, a point supported by Mr Burke. He said Wrotham Park would continue to do follow-up burns on the larger infestations. The trials also had the added benefit of flushing out 500 head of cattle hiding in the thick rubbervine near streams!

– Dr Faiz Bebawi and Andrea Corby

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Department of Natural Resources Tropical

Weeds Research Centre Charters Towers,
Tel: (07) 4787 0600 or
Henry Burke, Wrotham Park
Tel: (07) 40 94 8333

Related Information:
Woody Weeds of Central Queensland
Tropical Beef Centre
Tel: (07) 4923 8100 Fax: (07) 4923 8222
Email: info@roll.rock.tap.csiro.au
<http://leaky.rock.tap.csiro.au/facts/woody.html>

Cypulus On-Line
[http://kaos.erin.gov.au/states/cyp_on_/Animal and Weed Pests of Cape York Peninsula](http://kaos.erin.gov.au/states/cyp_on_/Animal%20and%20Weed%20Pests%20of%20Cape%20York%20Peninsula)
J. Mitchell & H. Hardwick, QDNR
http://kaos.erin.gov.au/states/cyp_on_/reports/lup/weed_con.html



Excellent wet signals time to plan firing up exotic weeds

The wet may be just beginning, but according to scientists and producers working with the Tropical Savannas CRC, it's time to start planning a fire regime for next year's dry.

The extraordinary amount of rain this year has resulted in a large build-up of grass and herbage – which has been great for grazing, but good seasons also encourage woody weeds like rubbervine.

Tropical Savannas CRC weed specialist Tony Grice of CSIRO says producers should consider fire as one of the best methods of keeping down rubbervine.

"Fire is a useful tool for some important weeds as most pasture and herbage species will regenerate quickly after fire," he said. Rubbervine now covers a very large amount of land in north-west Queensland.

"People's best estimates are that it is now broadly distributed over a range of 35 million hectares, with up to 700,000 hectares infested with the weed," said Tony. "It's mainly around creeks as it likes areas that receive extra water, but it grows on flood-out country too."

Grazier Roger Landsberg, who runs Trafalgar Station west of Charters Towers, is a firm advocate of burning off as part of managing a property. "I use burning where I can. The main reason is for weed control of rubbervine and parkinsonia, but it can also play a big role in halting the build-up of eucalypt suckers and the thickening of vegetation."

Roger said that over the past 30 years burning as a land management tool had fallen into disfavour because of changes in grazing and weather patterns.

The drought-tolerant *Bos indicus* and the introduction of supplementary feeding, combined with lower prices, meant that producers are now running larger numbers of cattle. Many producers would rather use the grass for production than fire management.

"Over 30 years we've seen a lot of the open woodland become thicker," Roger said. "Burning kept the vegetation in balance. Also, the '80s and '90s were dry years and people that burnt didn't have pasture regenerate," said Roger. "But even with a variable climate like we have, fire can be used as a management tool, but it has to be planned.

"Different paddocks or a paddock can be spelled on an annual basis so that it allows the producer a number of options. He can either use the grass as a drought mitigation option, burn it during the dry season or after a storm. The other advantage of spelling is that it allows the more desirable native grass species to set seed and compete with the more undesirable species."

Both Tony and Roger warned that if producers and land managers didn't take the opportunity to burn, there would also be a much greater risk of wildfire next year as the weather became hotter and drier.

"I've never seen a season like this: it's been magnificent," said Roger. "It's too green and wet to burn now, but prior to next dry season will be a good time."

For more information contact: Tony Grice
Tel: (07): 4753 8543 Fax: (07) 8543 8600
Email: Tony.Grice@tag.csiro.au
Roger Landsberg
Tel: (07) 4787 6677 Fax: (07) 4787 6462
Email: trafalgar@ultra.net.au



The world of weeds now has a Navigator – **Weed Navigator**, a guide to weeds in Australia and New Zealand. Published by the CRC for Weed Management Systems, it has more than 2800 entries and offers a comprehensive guide to

agricultural weed and environmental information. It includes contacts, publications, brochures, websites, databases, CD-ROMs, strategies, legislation, training opportunities, posters and more.

The authors of the guide are **Kate Blood, Ursula Taylor, Toni Nugent and Susan Timmins.**

The book sells for **\$30**, which includes postage and handling.

Contact:
CRC for Weed Management Systems
CRCWMS, University of Adelaide
PMB 1 Glen Osmond SA 5064.
Tel: (08) 8303 6590 Fax: (08) 8303 7125
Email: crcweeds@waite.adelaide.edu.au
Website:
<http://www.waite.adelaide.edu.au/CRCWMS/>

General

Fire Management Workshops January 1999

The Desert Uplands committee, in conjunction with the Department of Environment and Heritage, are holding interactive fire management workshops in January (weather permitting). The aim of the workshops are for landholders, research staff and local fire authorities to share knowledge of fire management.

Contact: Tim Fairbairn

Tel: (07) 4651 1002

Fax: (07) 4651 1002

Email:

DESERT.UPLANDS@bigpond.com

Fundraising for National Pioneer Women's Hall of Fame May 8-9, 1999 Alice Springs

Venue: Old Andado Homestead, Alice Springs

This is an annual fundraising event at Old Andado Homestead, Mother's Day weekend, for the National Pioneer Women's Hall of Fame.

Contact: Northern Territory Tourist Commission

Website: <http://www.nttc.com.au/>

Bushfire 99, National Bushfire Conference July 6-9, 1999, Albury

Venue: The Albury Convention and Performing Arts Centre
Swift Street, Albury NSW

Theme: Flammable Australia: fire regimes and biodiversity of a continent. Co-convenors are School of Environmental and Information Sciences, Charles Sturt University, CSIRO and NSW National Parks & Wildlife Service.

Contact: Mr Brian Lord CSU

Postal Address: BUSHFIRE 99

Charles Sturt University

PO Box 789, Albury NSW 2640

Tel: (02) 6051 9718

Fax: (02) 6051 9897

Email: bushfire99@life.csu.edu.au

Website: <http://life.csu.edu.au/bushfire99/>

RAPI National Planning Congress September 19-23, 1999 Darwin

Venue: Darwin Entertainment Centre
Topics include: regional, remote and indigenous; links to South East Asia and the Pacific countries and multi-disciplinary approaches to planning practice.

Contact: The Congress Secretariat
Convention Catalysts International Pty Ltd

Postal Address: GPO Box 2541

Darwin 0801 NT Australia

Tel: (08) 8981 1875

Fax: (08) 8941 1639

Email:

convention.catalysts@norgate.com.au

Websites:

<http://www.rapi.com.au/~rapi>

<http://www.lpe.nt.gov.au/new/whatson/rapi/default.htm>

Pastoral Interests

First Australian Soilborne Disease Symposium February 10-12, 1999 Gold Coast

Venue: Grand Mecure Hotel, Gold Coast
Sessions include soil health, soilborne disease; characterisation and management of yield decline and replant disease.

Contact: Conference Convenor

Postal Address: ASDS Secretariat
PO Box 717, Indooroopilly Qld 4068

Tel: (07) 3878 9242

Fax: (07) 3878 9530

Email: yrdpco@ozemail.com.au

Building Rural Leaders Tablelands Program March 2-5, 1999 Yungaburra

Venue: To be announced.

The program covers change management, communication, time and stress management, personality type, team work, strategic thinking and presentation skills.

Open to primary producers, government agencies, the community and agribusiness.

Contact: Debbie Atkins

Charters Towers DPI

Tel: (07) 4787 2155

Australian Plant Breeding Conference April 19-23, 1999, Adelaide

Venue: Stamford Grand Hotel, Glenelg
The conference is a major forum to provide insights into developments in all aspects of plant breeding.

Themes include: Breeding new crops, breeding Australian native species, genetic engineering, anticipating market requirements and information technology.

Contact: The Conference Convenor
Festival City Conventions

Postal Address: PO Box 949

Kent Town SA 5071

Tel: (08) 8363 1307

Fax: (08) 8363 1604

Email: fceaton@ozemail.com.au

Beef Expo 2000 April 9-16 2000, Central Queensland

Venue: To be announced

The event will highlight the contribution the national beef industry has made to the Australian society and will focus on those opportunities which will allow the beef industry to build a dynamic, secure future in the next millennium.

The expo will create the opportunity for the entire industry to interact with its wider domestic and international stakeholders.

Website:

<http://leaky.rock.tap.csiro.au/Beef2000/beef2000-structure.html>

Environment

Ecological Economics Conference July 5-7, 1999, Brisbane

Venue: Griffith University, Brisbane

Conference Theme: "Grounding the Paradigm".

The conference will be held in conjunction with the 1999 International Symposium on Society and Resource Management at the University of Queensland.

Contact: Dr John Tisdell
Postal Address: Australian School of Environmental Sciences
 Griffith University
 Brisbane 4111 Australia
Email: ecolecon@ens.gu.edu.au
Website: <http://www.ens.gu.edu.au/ecolecon/Conf.html>

Ecology & Biology

BES Annual Symposium: Ecological Consequences of Habitat Heterogeneity March 23-25, 1999 Sussex, UK

Venue: University of Sussex
 This meeting will present an up-to-date survey of consequences on environmental heterogeneity for individual organisms, populations and communities.

Contact: The Ecological Society
Postal Address: 26 Blades Court
 Deodar Rd, Putney
 London SW152NU UK
Tel: 440 181 9797
Fax: 440 181 871 9779
Email: inmet@ecology.demon.co.uk
Website: <http://www.demon.uk/bes>

VI International Rangelands Congress People and Rangelands: Building the Future July 17-23, 1999 Townsville

Venue: Sheraton Townsville Hotel
 Casino and the Entertainment and Convention Centre

Plenary speakers: Dr Tim Flannery, Dr Frank (Fee) Busby and Mr Richard Leaky. Six workshops will be held prior to the congress from July 16-17.

Sessions embrace issues of scale, multi-disciplinarity and multiple use. They have been designed to provide educational training in a combination of lectures and practical classes.

Participants will be encouraged to contribute their own experience and problem-solving situations to the group discussions.

Each of the workshops will run for two days with predominantly local

and some overseas lecturers. Depending on demand, a smaller number may be repeated after the Congress. One workshop will be sponsored by the Tropical Savannas CRC.

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 Dr. Gordon King
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Registered Office
 Australia: (02) 9449 3670
Postal Address: VI International
 Rangeland Congress Registrations
 PO Box 764, Aitkenvale
 Townsville Qld 4814
Email: secretariat-irc@unsw.edu.au
Editors: editors-irc@unsw.edu.au
Website: <http://irc.web.unsw.edu.au>

MODSS '99 International Conference on Multiple Objective Decision Support Systems for Land, Water and Environmental Management August 1-5, 1999, Brisbane

Theme: The conference will address the broad spectrum of decision support through five themes and multiple sessions.

Contact: Dr Paul Lawrence
Postal Address: Department of Natural Resources
 Resource Sciences Centre
 80 Meiers Road
 Indooroopilly Qld 4068
Tel: (07) 3896 9560
Fax: (07) 3896 9898
Email: modss99@dnr.qld.gov.au
Website: <http://www.dnr.qld.gov.au/events/modss99/index.htm>

Weed Management

Weed Science Society of America Annual Meeting February 8-10, 1999 San Diego, USA

Venue: San Diego, CA, USA
Contact: WSSA, J. Breithaupt, PO

Box 1897, Lawrence, KS 66044, USA
Tel: 1-913-843-1235
Fax: 1-913-843-1274
Email: jbreith@allenpress.com
Website: http://www.css.orst.edu/weeds/iwss/Newsletter/0798/dates_events.htm

1st International Workshop on Weed Risk Assessment February 16-19, 1999 Adelaide

Venue: Adelaide, South Australia
Contact: GPO Box 1671, Adelaide
 SA 5001 Australia
Email: virtue.john@pi.sa.gov.au
Website: http://www.css.orst.edu/weeds/iwss/Newsletter/0798/dates_events.htm

5th International Conference for Plant Protection in the Tropics March 1999 Kuala Lumpur

Venue: Kuala Lumpur, Malaysia
Contact: NZ Radziah
Fax: 60-3-656-5251
Email: sivasam@mardi.my
Website:
http://www.css.orst.edu/weeds/iwss/Newsletter/0798/dates_events.htm

Symposium on Biological Control in the Tropics: Towards Efficient Biodiversity and Bioresource Management for Effective Biological Control March 18-19 1999 Selangor Malaysia

Venue: MARDI Training Centre
 Serdang, Selangor Malaysia
 Organised by National Council for Biological Control Malaysia in collaboration with CAB International.
Contact: The Secretariat
 Organising Committee
 Symposium on Biological Control in the Tropics
Postal Address: c/o Centre for Strategic Research, Environment and Natural Resource Management
 MARDI, PO Box 12301

50774 Kuala Lumpur
Tel: 03-9437432
Fax: 03-9487639
Email: anwar@mardi.my
Websites:
<http://www.mardi.my>
<http://cabi.org/>

**11th European Weed Research Society Symposium
 June 28-July 1, 1999**

Venue: Basel, Switzerland
Tel: 41-1783-6111
Fax: 41-1780-6341
Email: daniel.gut@wae.faw.admin.ch
Website: <http://www.res.bbsrc.ac.uk/ewrs>

**10th Biological Control of Weeds International Symposium
 July 5-9 1999, USA**

Venue: Bozeman, MT, USA
Contact: NR Spencer, USDA/ARS
 1500 N Central, Sidney, MT 59270
Tel: 406-482-9407
Fax: 406-482-9407
Email: nspencer@sidney.ars.usda.gov
Website: www.symposium.ars.usda.gov

**12th Australian Weeds Conference
 September 12-16 1999, Hobart**

Venue: Hobart, Tasmania
Contact: Conference Design
Postal Address: PO Box 342, Sandy Bay
 Tasmania 7006, Australia
Fax: (03) 6224 3774
Email: mail@cdesign.com.au

Website: http://www.css.orst.edu/weeds/iwss/Newsletter/0798/dates_events.htm

**17th Asian Pacific Weed Science Society Conference
 November 1999, Bangkok**

Venue: Bangkok, Thailand
Contact: Dr Sombat Chinawong
 APWSS Secretary Department of Agronomy
 Faculty of Agriculture, Kasetsart University
 Chatuchak, Bangkok 10903, Thailand
Fax: 662-579-8580
Email: agrsbc@nontri.ku.ac.th
Website: http://www.css.orst.edu/weeds/iwss/Newsletter/0798/dates_events.htm

**Weed Science Society of America
 February 5-10, 2000, USA**

Venue: Westin Harbour Hotel, Toronto, Canada
Contact: J. Breithaupt
Postal Address: PO Box 1897
 Lawrence KS 66044, USA
Tel: 1-913-843-1235
Fax: 1-913-843-1274
Email: jbreith@allenpress.com

Education

**Southern Crossing Pointers for Change International Conference on Environmental Education
 January 14-18, 1999, Sydney**

Venue: University of NSW, Sydney
Tel: 02) 9949 4933
Fax: (02)9949 3905
Email: orggroup@orggroup.aust.com



ABORIGINAL COMMUNITIES



PASTORALISM



TOURISM



MINING



CONSERVATION



DEFENCE

Savanna Links is edited and produced by the Tropical Savannas CRC.

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