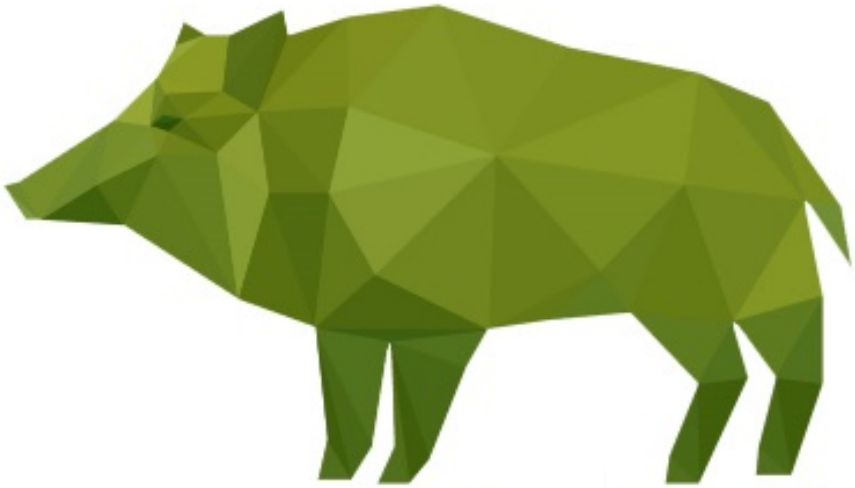
RESOURCE RECOVERY Australia



Opportunity from a menace

Feraliser™

The use of feral species as soil amendments in agriculture

Synopsis

- Indigenous people require a reliable and independent financial income based on local resources
- We need a new way to look at ‘resources’ in remote and rural areas
- One of the greatest accessible resources in Australia are feral species
- Feral species convert our soil assets into destructive weeds and animals
- Research indicates that all feral animal species can be used in this project
- It has been demonstrated that feral species can be readily converted to liquid and solid fertiliser amendments through the use of existing inexpensive ‘open source’ technologies
- The products made can be used to restore degraded land and assist all forms of farming

- Local and very cheap off-the-shelf technology exists to make these quality products from feral materials
- Local individuals and farmers can harvest local resources for bounties, paid by indigenous processors
- Manufacturing processes are transportable and odour free
- Income generated from the sale of Feraliser can be used to pay hunters good bounties as permanent income
- This project could provide real and permanent jobs for people 'on country' and on farms all over Australia
- The output product is comparable with all existing liquid fertiliser products on the market

Background
Introduced weeds and animals place a very large burden on the environment and create extra work for traditional owners, Park Rangers, farmers and environmental groups across Australia every year.

In addition to the cost of feral management there are also the costs of social disruption, infrastructure damage and repair and in some instances cataclysmic damage to, or extinction of, native species.

Feral animals in 2004 were reported to have cost Australia around $720 million. The management of weeds in recent years has risen to approximately $4 billion per year for management and lost production.

The current focus of the Feraliser project is in Cape York where feral pig numbers in the Aurukun Wetlands are estimated to be approximately 4 million.

Predation of pigs on green turtles is close to 100%. The pigs have learnt to eat the eggs as the come out of the mother turtle or to wait by the water's edge to eat the young as they emerge after hatching in the sand.

CSIRO ecologists estimate that, failing effective control on pig numbers, the overall ecology of Cape York in the Coen to Weipa region is under threat of total collapse.

The CSIRO practice of shooting pigs from the air and leaving carcasses in the landscape has been found to feed other feral animals.

Adding value to the body of the feral animals by converting it to fertiliser, will substantially lift the value of the animal to the local community. Current research indicates that if the Feraliser product can be sold for around $2.50 per liter, the hunter can be paid $1.20 per kg, making a 50 kg pig worth approximately $60.

This is an opportune time to put forward a practical solution at little or no cost to the taxpayer, which generates many new indigenous jobs protecting country.

Discussion
The issue of feral weeds and animals should be viewed from the perspective of their nutrient value and the conversion of this value into something which can be captured by local people.

In the physical environment the fact is that these introduced species have simply occupied an ecological niche in the ecological structure of Australia previously occupied by native species.

These species use the same or similar resource inputs to build body mass and reproductive capacity through light, nutrient, water and energy. They are made up of the same sugars, proteins, chemicals and biological structures as native species.

In the same way that indigenous peoples and farmers use techniques to manage species for their day-to-day existence by harvesting and taking products to market, so too can techniques be used which turn feral species into a valued asset, provided a market can be found for the outputs.

The key to this conversation must be the holistic development of a harvesting, processing and sales model, which is supported by current economic practice.

Implementation
The use of feral species in food production and agricultural applications in not new to Australia - Charlie Carp established in 1995 has been successfully using feral fish species from the Murray River system for the production of a valuable fertiliser.

Weeds species can be converted into a valuable compost product using conventional composting techniques.

Recent local research has indicated that common fleabane and other noxious weeds can be used as an on-farm biological input, which help increase nutrient efficiency by delivering humus and carbon to soils.

Several licensed compost facilities in NSW are now using this simple inoculant-based process to deliver a high-quality compost process using food and garden organic waste as inputs under the City to Soil project.

The inoculant product is very cheap to make from ‘open source’ recipes and requires no more equipment that the average kitchen. The product will control odour in the compost manufacturing process and can be made in bulk quantities using any organic material as an input in the compost process.

Recent research has shown that adding the inoculant product, carbohydrate and water to macerated animal corpses, can convert the end product into a viable foliar fertiliser product, similar in many ways to the Charlie Carp end product but without added energy input.

The product can be used in agricultural applications and any pasture improvement process. Recent research by the Waite Institute has shown a fertiliser value of 4:1:3 and growth rates have been similar to or better than liquid products already in the market.

Financial Model

Feral animals have only ever been inherently valued for their fur or sporting value. While small bounties have been paid in the past, with no beneficial use of the bulk of the animal body, the carcass is usually left in the landscape and as such, becomes food for other feral animals making the problem worse.

To overcome this issues and provide long-term stability, regional feral animal processing needs to deal with the entire animal. Production systems would need to:

- Provide a fair and reasonable price to the hunter/supplier
- Provide remote processing sites at a reasonable distance to the hunting grounds and refrigeration systems if necessary
- Engage a simple yet effective remote energy supply
- Produce outputs in a readily transportable and marketable form

The profit margin from this process would vary considerably depending on a number of factors such as distances travelled, animal size, end sale price, price paid to hunter/supplier etc.

It is currently intended that the first processing site should be in Coen, Cape York. The initial market would be to farmers based on the Atherton Tableland who have indicated their support for the project.

The product currently in production, a protein hydrolysate, has a balanced NPK low-end value of 4:1:3.

The solids component of the end product has a similar nutrient value to the liquid and can be used for sub-soiling under crops or potentially pelletised with feral weeds as fish food for local or export markets.

This project could create a value opportunity for a totally indigenous market, where the supplier is an indigenous group on country and the end user is an indigenous grazing or food production enterprise.

The end product could also be used extensively in rehabilitation work associated with mining, parks management or restoration projects associated with crown-owned land. (50% of NSW is Crown land – in excess of 60% of Queensland is Crown land.)

There are also opportunities to make the same product from road kill and to train farmers in the manufacture of the product on their own farms.

The Feraliser Project Team have developed full financial and business models for this project, which is available from Resource Recovery Australia, given commitment to the usual memoranda.

Conclusion

The true value of any animal lies in the nutrient content of its carcass. The animal spends its entire life accumulating a comprehensive range of minerals and nutrients in its body. It is a small fertiliser package, which contains all the elements of viable life. A package which, with processing, can be readily returned to the soil.

These minerals and nutrients are the collated elements of the Australian landscape, which the indigenous population has previously gathered through millennia to sustain itself and its economy.

Though they are now in the bodies and forms animals alien to the Australian landscape, these same nutrients and elements can once again be made available to sustain the economic future of the indigenous and rural populations.