

IDEAS TO IMPACT

RDC PITCHES FOR
COLLABORATION



Growing Green Chemistry in Australia: Black Wattle (*Acacia mearnsii*), Industrial Water Reuse and Carbon Value

RDC INVOLVED: AMPC

RESEARCH ORGANISATION: TANAFLOC AUSTRALIA

Australia's agrifood sector relies heavily on imported, metal-based coagulants for industrial water and wastewater treatment. While effective, these chemicals generate high sludge volumes, increase disposal costs, introduce residual metals into downstream environments, and carry significant embodied emissions.

This opportunity seeks to establish a scalable Australian supply chain for carbon negative, organic coagulants used in industrial water and wastewater treatment. It builds on successful AMPC supported trials in red meat processing that demonstrated strong performance of a tannin based, metal free coagulant, with a 12-month NSW verification trial now underway.

The project integrates proven treatment chemistry with Australian Black Wattle cultivation, treated wastewater reuse, and licensed local manufacturing. The aim is to reduce reliance on imported, metal-based chemicals while creating water, land, biomass, and carbon value through a circular model that links industry, agriculture, and manufacturing.

SEEKING

- Food and beverage processors
- Agribusinesses
- Irrigation and plantation operators
- Industrial manufacturers
- Wastewater managers
- Research partners interested in circular, sustainable water treatment solutions

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Commercialisation of bioharvesting wool technology

RDC INVOLVED: AWI

RESEARCH ORGANISATION: ADELAIDE UNIVERSITY

The Australian wool industry is under stress due to a shortage of skilled shearers. Anecdotal reports indicate that some woolgrowers are leaving the industry due to issues with attaining skilled labour, rising input costs and logistical difficulties.

Adelaide University has developed an alternative to traditional shearing, an injectable biochemical agent that weakens wool fibres at a precise point, enabling low-force, mechanically assisted wool harvesting. The innovation aims to address the critical shortage of skilled shearers and improve the sustainability and flexibility of wool production.

Adelaide University are now seeking partners to assist in developing and commercialising this technology.

SEEKING

- Animal health organisations
- Regulatory specialists
- Manufacturing companies (mechanical assisted wool harvesting)
- Agribusinesses commercial partners

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Biobased and biodegradable controlled delivery of agri-compounds

RESEARCH ORGANISATION:
UNIVERSITY OF QUEENSLAND (UQ)

Many agricultural products dissolve easily in water or are quickly lost to the environment. This is especially true for fertilisers, but it also affects products like nitrogen stabilisers, herbicides, pesticides and biostimulants. When this happens, farmers end up paying more, the products can cause environmental harm, and they don't last as long in the soil as intended.

Some controlled-release products already exist, but many rely on plastics that stay in the soil and can cause long-term damage. Researchers at the University of Queensland have developed biobased, fully biodegradable polymer technologies that enable long-term, controlled release of fertilisers, pesticides, and intraruminal agents, improving efficacy while reducing environmental loss.

Their prototypes are made using a variety of standard manufacturing methods, such as coating, moulding and pressing. The release rate of the active ingredient can also be adjusted by changing the materials used and how they are designed or layered, from several months to several years.

The University of Queensland is looking to build a collaborative research connection and drive the commercialisation of their technology.

SEEKING

- Fertilizer manufacturers
- Agri-compound producers
- Manufacturing companies
- Trial collaborators
- Agribusiness commercial partners

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AI for Precision Biomass Prediction

RDC INVOLVED: MLA

RESEARCH ORGANISATION: CSIRO

Accurately measuring pasture biomass is difficult with current tools and methods, which are either too slow, unreliable in variable conditions, or unable to identify different pasture species. This makes it harder for farmers to make informed grazing decisions that balance productivity with long-term environmental outcomes.

Image2Biomass is a collaboration between CSIRO and Meat & Livestock Australia that has produced state-of-the-art AI and computer-vision models. These models are capable of accurately estimating species-level pasture biomass from images captured by handheld devices, ground vehicles, or drone-mounted cameras.

Image2Biomass is looking for partners to integrate these AI models into commercial platforms, validating them on-farm, and supporting their commercialisation.

SEEKING

- Agribusiness commercial partners
- Agtech partners
- Platform integrators
- Other industry partners

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Wine
Australia

Lead 'Material' Change – The Future of Alternative Materials

RDC INVOLVED: WINE AUSTRALIA

RESEARCH ORGANISATION: PHANTM

Many industries still depend on fossil-based plastics and high-carbon materials that are increasingly restricted by regulation and contribute to waste, emissions and environmental harm. While sustainable alternatives exist, most aren't affordable, scalable or practical to use, making it hard for businesses to transition without compromising performance or cost.

Phantm is advancing next-generation, biodegradable polymer materials produced from organic waste streams, which leave no harmful residue in soil or marine environments. These biodegradable materials are designed to replace fossil-based plastics, enabling industries to reduce carbon impact, meet emerging regulatory requirements, and maintain commercial performance.

After six years of R&D, the technology is now commercially ready, with scalable production pathways and validated supply chains supporting pilot and early deployment.

SEEKING

- Packaging companies
- Manufacturers
- Food and consumer good producers
- Agribusinesses commercial partners

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Department of the
Environment, Tourism,
Science and Innovation



Queensland Government
Department of Primary Industries



Mycopesticide Control of Lesser Mealworm in Commercial Chicken Sheds

RDC INVOLVED: AGRIFUTURES

RESEARCH ORGANISATIO: QUEENSLAND DPI

Lesser mealworm is a serious pest in chicken sheds, spreading disease and damaging shed infrastructure, and is currently managed mainly with chemical insecticides. These chemicals are becoming less effective due to resistance, inconsistent control, and limited alternatives. As such, there is an urgent need for safer and more reliable control options.

Research by Queensland DPI and AgriFutures Australia has developed a mycopesticide using the fungus *Beauveria bassiana*, offering a biologically based alternative to conventional chemical insecticides. This fungal biocontrol has shown promising efficacy and could reduce chemical use, insecticide resistance, and environmental residues, though further work is needed before regulatory registration.

The research team are looking for interested parties to manage the commercialisation and expand its application.

SEEKING

- Commercial partners to manage commercialisation
- Partners to expand the application of mycopesticides across other industries, particularly those in animal health, biotech, agricultural chemical companies, or firms with biocontrol expertise

CONTACT

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Smart Surface Technology for Scalable Removal of Reductive Aromas in Wine

RDC INVOLVED: WINE AUSTRALIA

RESEARCH ORGANISATION: AWRI

The Australian Wine Research Institute (AWRI) has developed a smart surface technology that selectively removes reductive sulfur aromas from wine using plasma-coated stainless-steel surfaces, functionalised with immobilised gold nanoparticles. The solution offers a scalable, regenerable, non-additive alternative to copper fining and oxidation, thereby improving wine quality and aligning with sustainability and regulatory expectations.

The research team are looking for interested parties to scale, pilot, and commercial deployment of this technology in winery operations.

SEEKING

- Surface engineering and plasma deposition companies,
- Advanced materials partners,
- Winery equipment manufacturers, and
- Agribusiness commercial partners

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