

## Agriculture & Food Sciences Innovation Pipeline | November 2023

PLANTS AND CROPS

Project name	Description	Partnered / Available	TRL 1 - 3	TRL 4 - 5	TRL 6 - 7	TRL 8 - 9
<b>Crops and Horticulture</b>						
Aussie Colours®	Water efficient flowering ornamental plants	Start-up: Aussie Colours Pty Ltd	●	●	●	●
Ruhbi™ Bayberry	New fruit for the western world - high-yielding, sweet and high in antioxidants	Licensed: PVA (Aus & NZ); AIGN (ROW)	●	●	●	●
UQ-1800 (Wheat)	High yielding wheat variety with excellent straw strength	Licensed: Seed Exchange Australia	●	●	●	●
Avocado tissue culture	Platform for clonal propagation of avocado rootstock (for REED)	Licensed: Anderson Horticulture Pty Ltd	●	●	●	●
EcoTurf	Hard wearing, industrial strength landscaping turf	Under option	●	●	●	
Coconut tissue culture	Tissue culture for cloned large-scale propagation in coconuts	Under option	●			
Avocado tissue culture	Platform for clonal propagation of avocado rootstock (for DUSA)	Available	●	●		
Avocado tissue culture	Platform for clonal propagation of avocado rootstock (for VELVICK, KIDD and ZUTANO)	Available	●	●		
Midas maize	Rich in zeaxanthin for novel food products with eye health claims	Available	●	●		
SupaSorghum	Protein modification and genomics for increased grain size, protein content and digestibility	Available	●	●		
Purple wheat	Novel purple coloured wheat grain suitable for wellness products	Available	●			
<b>Plant Disease and Pest Control</b>						
Di-Bak Parkinsonia	Fungal bioherbicide and novel application method for woody weed control	Start-up: BioHerbicides Australia (Aus)	●	●	●	●
Bioclay layered double hydroxide	Nanoparticle platform for delivery of RNAi mediated crop protection against sucking insects & viruses	Licensed: Nufarm Ltd	●	●		
Plant root fungal protection	Novel mechanisms and compounds for plant protection against fusarium wilt in bananas	Available	●	●		
Nanocapsules for active delivery	Silica micro/nanocapsules for controllable sustained release of active ingredients including microbes	Available	●	●		
BenPol - bentonite complex	Nanoparticle platform for delivery of RNAi mediated crop protection against chewing insects	Available	●	●		

● **Already partnered**   ● **Asset available for partnering**

### Technology Readiness Levels (TRLs)

- TRL 1** Basic principles observed and reported
- TRL 2** Technology concept and/or application formulated
- TRL 3** Analytical and experimental critical function and/or characteristic proof-of concept
- TRL 4** Component/subsystem validation in laboratory environment
- TRL 5** System/subsystem/component validation in relevant environment
- TRL 6** System/subsystem model or prototyping demonstration in a relevant end-to-end environment
- TRL 7** System prototyping demonstration in an operational environment
- TRL 8** Actual system completed and "mission qualified" through test and demonstration in an operational environment
- TRL 9** Actual system "mission proven" through successful mission operations

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ANIMALS	<b>Animal Production</b>						
	PAC-701 & 901	Winter adapted lucerne species with disease and pest resistance	Licensed: PGG Wrightsons	●	●	●	●
	PACL-501	Highly persistent variety of grazing lucerne	Licensed: PGG Wrightsons	●	●	●	
	Natural feed additives	Novel additives for preservation of animal feed	Industry Partnered	●	●		
	Probiotic livestock feed	Novel bacillus inoculation of livestock feed for probiotic gains	Available	●	●	●	
	Rough microcapsules	Natural antibiotic delivery for feed supplements	Available	●	●		
	Anti-fertility vaccine	Oral sterilisation vaccine for companion animals	Available	●			
	<b>Animal Health</b>						
	Cane toad lure	Cane toad tadpole attractant	Licensed: Watergum Community Inc.	●	●	●	●
	Natural anthelmintic	Natural anthelmintics from microbes for treatment of livestock	Industry Partnered	●	●		
	Tick vaccine	Vaccine for the Australian paralysis tick (Ixodes holocyclus)	Under option	●	●		
	Rough microcapsules	Silica microcapsules with rough projections to ensure adhesion to fur for active delivery	Available	●	●		
	Natural cattle tick control	Micro-encapsulated tea tree oil formulations for control of cattle tick	Available	●	●		
	Silica nanocapsules	Silica micro/nanocapsules for high active ingredient loading and controllable sustained release	Available	●	●		
FOOD	<b>Post Harvest and Food</b>						
	PERKii™	A new juice and water, low calorie probiotic drink using the ProGel™ technology	Start-up: Perkii Pty Ltd	●	●	●	●
	ProGel™	Micro-gel encapsulation of active food supplements, human & animal drugs requiring liquid stable, low cost, scaleable taste masking & controlled release	Start-up: Progel Pty Ltd	●	●	●	●
	Probisafe™	Probiotic lactic acid bacteria which kill/inhibit the growth of Salmonella & Listeria on fresh food products	Available	●	●		
	Algae food products	Food products using whole fresh unprocessed microalgae. Strains with optimum cell wall structure for digestibility matched with high yielding bioactives	Available	●			
	Cell-based meat production	Novel bioreactor configuration for cell-expansion that overcomes current challenges such as diffusion limitations, cost of growth media and cellular damage by shear stress	Available	●			
	Uniquely Australian liqueurs	Liqueurs based on flavours of uniquely Australian flora	Available	●			
	Uniquely Australian flavoured confectionery	Confectionery based on flavours of uniquely Australian flora	Available	●			

● Already partnered ● Asset available for partnering