

Agriculture & Food Sciences Innovation Pipeline | November 2025

	Project name	Description	Partnered / Available	TRL 1 - 3	TRL 4 - 5	TRL 6 - 7	TRL 8 - 9
PLANTS AND CROPS	Plant Breeding and Varieties						
	Aussie Colours®	Water-efficient flowering ornamental plants	Start-up: Aussie Colours Pty Ltd	●	●	●	●
	Ruhbi™ Bayberry	Varieties of red bayberry (<i>Myrica rubra</i>) bred for yield, sweetness and antioxidant content	Licensed: PVA (Aus & NZ); AIGN (ROW)	●	●	●	●
	UQ-1800 (Wheat)	High yielding wheat variety with excellent straw strength	Licensed: Seed Exchange Australia	●	●	●	●
	Tissue Culture Methods - Dubosia	Protocols for clonal propagation of UQ-bred <i>Duboisia myoporoides</i> varieties	Available	●	●	●	●
	Tissue culture Methods - Avocado	Protocols for clonal propagation of avocado rootstocks 'Reed', 'Velvick', 'Kidd', 'Zutano' and 'Ashdot'	Available	●	●	●	●
	EcoTurf	Couch variety that is suited as hard-wearing industrial landscaping turf	Available	●	●	●	
	High-zeaxanthin maize	Sweet corn hybrids with >7x zeaxanthin content of conventional varieties	Available	●	●		
	Sorghum pre-breeding lines	Sorghum lines featuring adaptive traits such as improved root architecture, WUE, heat tolerance and grain quality	Available	●	●		
	Tissue Culture Methods - Coconut	Protocols for clonal propagation of coconuts	Available	●			
	Purple Wheat	Wheat variety containing high levels of anthocyanin in the grain	Available	●			
	Nanocarrier for non-GM delivery of nucleic acids	Protein-coated clay particles facilitating translocation of biomolecules (mRNA, dsRNA, siRNA, plasmid DNA) in plants, gene-editing application	Available	●			
	Plant Disease and Pest Control						
	Di-Bak Parkinsonia	Fungal bioherbicide and novel application method for woody weed control	Start-up: BioHerbicides Australia (Aus)	●	●	●	●
	Whitefly RNAi constructs	Proprietary RNAi constructs that target life critical genes upon ingestion by Whitefly (<i>Bemisia tabaci</i>)	Under option	●	●		
AGRITECH	Banana Bunchy Top Virus (BBTV) diagnostic antibodies	Monoclonal antibody cell lines that detect the presence of BBTV. For integration into ELISA or Lateral Flow assays.	Under option	●			
	Biogel	Water-free technique to produce biogel from agricultural & paper waste. Applications in soil wetting agents, hydromulch, growing media, seed treatment, composite materials	Available	●	●		
	Seed enhancement technology	Seed coating derived from spinifex nanocellulose fibre improving the delivery of actives such as plant growth regulators, peptides, microbes, pesticides	Available	●	●		
	Silica nanoparticles for active delivery	Silica micro/nanoparticles (several variants) for controllable release of active ingredients including microbes	Available	●	●		
	Sprayable nanoparticle RNAi delivery: BENPOL	Clay-polymer nanoparticle carrier for delivery of RNAi mediated crop protection against chewing insects	Available	●			
	Sprayable nanoparticle RNAi delivery: BIOCLAY	Clay-based nanoparticle carrier for delivery of RNAi-mediated crop protection against sucking insects, viruses and fungi	Available	●			
	Agritech Software						
	Digital twin software for orchard and vineyard spray optimisation	GPU-accelerated spray simulation program that models explicit movement of spray droplets	Available	●	●		
	CropVision: Wheat yield prediction model	Yield estimation using satellite imagery, machine-learning & advanced biophysical stress index	Available	●	●		
	Software tool delineating paddock boundaries by season	Delineate actively cropped paddocks using multi-season Sentinel-2 satellite imagery and advanced AI segmentation	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	Animal Production						
	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	●	●	●	
	Livestock feed additive	Novel strain of Bacillus (H57) as probiotic for weight gain and nitrogen retention	Licensing	●	●	●	
	Anti-methanogenic intraruminal device	Biopolymer device inserted into the rumen for slow-release of anti-methanogenic active	Available	●	●		
	Polled phenotype biomarker	Genetic biomarker identifying a mutation causing polled phenotype in cattle, for diagnostic assays	Available	●	●		
	Silica nanoparticles for active delivery	For antibiotic delivery in feed supplements	Available	●	●		
	Beef marbling diagnostic	A blood metabolite diagnostic to detect propensity to marble	Available	●			
	Cattle fertility biomarker	A blood metabolite diagnostic to detect early onset of puberty	Available	●			
	Animal Health						
	Cane toad lure	Cane toad tadpole attractant	Licensed: Watgum Community Inc.	●	●	●	●
	Paralysis tick vaccine	Vaccine for the Australian paralysis tick (Ixodes holocyclus)	Under option	●	●		
	Natural anthelmintic	Microbially-derived natural anthelmintics for treatment of livestock	Available	●	●		
	Bovine venereal disease vaccine	Inactivated dual-action vaccine protecting against Trichomoniasis and Vibriosis in cattle	Available	●	●		
	Silica nanoparticles for active delivery	Silica nanoparticles with properties enabling adherence to fur for active delivery	Available	●	●		
	Sterilisation vaccine	Single-shot sterilisation vaccine for prevention of boar taint in male pigs	Available	●			
	Cattle tick vaccine	Recombinant protein vaccine with >80% efficacy and R&D underway for single annual booster	Available	●			
	RNAi control of YHV in prawns	Proprietary RNAi constructs targeting yellow-head-virus in prawns plus clay-polymer nanoparticle delivery platform	Available	●			
	RNAi control of flystrike in sheep	Proprietary RNAi constructs targeting blowfly plus clay-polymer nanoparticle delivery platform	Available	●			
FOOD	Food Technology						
	PERKii™	Low calorie probiotic drink utilising the ProGel™ technology carbonated & juice-type lines	Start-up: Perkii Pty Ltd	●	●	●	●
	ProGel™	Micro-gel encapsulation that is liquid, stable, low cost, scalable, taste-masking and controlled release. Applications in food, supplements or drugs.	Start-up: Progel Pty Ltd	●	●	●	●
	Probisafe™	Probiotic lactic acid bacteria which kill/inhibit the growth of Salmonella & Listeria on fresh food products	Available	●	●		
	Realistic <i>in-vitro</i> meat	3D cell culture scaffolds to manufacture stiff, thick, marbled meat products	Available	●			
	Sensor for antibiotic residue detection	Sensor technology for rapid detection of antibiotic residues in food, particularly dairy and meat	Available	●			
	Mammalian cell expansion bioprocess design	Novel bioreactor designed to optimise the delivery and transport of gas and media to cells encapsulated in hydrogel carriers	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	●			
	Mouthfeel modulating complex	Protein-polysaccharide complexes with friction coefficients below 0.01 achieving super-lubricity.	Available	●			
	Novel encapsulation method for vitamin B12	Optimising encapsulation efficiency, yield and whiteness.	Available	●			

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