

PLANTS AND CROPS

Asset Name	Description	Faculty or Institute	Partnered or Available	TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
Crops and Horticulture							
Aussie Colours®	Water efficient flowering ornamental plants	UQSc	Start-up: Aussie Colours Pty Ltd				
QuGene	Plant breeding simulation tools to investigate characteristics of genetic material undergoing repeated cycles of selection	UQSc	Non-exclusively licensed & industry partnered				
Ruhbi™ Bayberry	New fruit for the western world - high-yielding, sweet and high in antioxidants	UQSc	Licensed: PVA (Aus & NZ); AIGN (ROW)				
TT Canola Hybrids	Triazine tolerant canola variety for high rainfall areas and protoplast fusion hybridization technique	UQSc	Licensed: Advanta Seeds				
UQ-1800 (Wheat)	High yielding wheat variety with excellent straw strength	UQSc	Licensed: Seed Exchange Australia				
Avocado Tissue Culture	Platform for clonal propagation of avocado rootstock	QAAFI	Industry Partnered				
XPT-UQ1201	Wheat PHS resistance in elite germplasm using UQ speed breeding technology	UQSc	Licensed: PGG Wrightson Seeds				
XPT-UQ1203	Wheat PHS resistance in elite germplasm using UQ speed breeding technology	UQSc	Licensed: Dow AgroSciences				
Ecoturf	Hard wearing, industrial strength landscaping grass	UQSc	Available				
O'Hara barley	Multi-disease resistance in elite Scarlett variety using UQ speed breeding technology	QAAFI	Available				
QuGrains	Rapid trait introgression platform for plant breeding	UQSc & QAAFI	Available				
FlourMAX	Wheat proteins and genomics associated with high yields of flour on milling	QAAFI	Available				
High Bread	Wheat protein and genomics that give good bread rising properties	QAAFI	Available				
Midas Maize	Maize and popcorn varieties rich in zeaxanthin for novel food products with reduced artificial colours and macular health benefits	QAAFI	Available				
RipeStuff™ Ethylene powder	Novel delivery of ethylene for fruit stimulation and growth promotion	UQSc	Available				
Sorghum Digestibility	Modified sorghum seed proteins to increase total protein content and digestibility	UQSc	Available				
SupaSorghum	Protein modification and genomics for increased grain size, protein content and digestibility	UQSc	Available				
UAV crop analysis	Power efficient UAV design platform with long flight times, coupled with crop imaging analysis tools	UQEng	Available				
Plant Disease and Pest Control							
Di-Bak Parkinsonia	Fungal bioherbicide and novel application method for woody weed control	UQSc	Start-up: BioHerbicides Australia (Aus)				
Bioclay Layered Double Hydroxide	Nanoparticle platform for delivery of RNAi mediated crop protection against sucking insects & viruses	QAAFI & AIBN	Industry Partnered				
Caterpillar biocontrol	Platform for improvement of baculovirus production yields for economical biopesticides	AIBN & UQSc	Industry Partnered				
Nexgen Plants	Novel platform for development of virus resistant varieties for major crops using transgenic, cisgenic and marker assisted breeding methods	UQSc	Start-up: Nexgen Plants Pty Ltd				
OAIP	Orally active insecticidal peptides from spider venom	IMB	Industry Partnered				
Pesticide analogues	Novel analogues of commercial herbicides and insecticides to increase efficacy and safety, and reduce target weed and pest resistance	UQSc	Industry Partnered				
Single Drop Genomics	Rapid, general purpose genomic testing assay requiring very little equipment for on-site testing for pathogens	UQSc & AIBN	Licensed: Xing Technologies				
Flocculation Diagnostic	A simple and effective amplified DNA diagnostic readout system, particularly suited for in-field pathogen testing	UQSc	Available				
Rapid Nucleic Acid Extraction	Method for extraction of amplification-ready nucleic acids from crude plant tissue or soil samples in just 30 seconds	UQSc	Available				
Cyclotides	Plant derived biopesticides and stable peptide structures for bioengineering new pesticides	IMB	Available				
Fungal biocontrol	Growth promotion and biocontrol of fungal pathogens with novel bacillus species	UQSc	Available				
Nanocapsules for active delivery	Silica micro/nanocapsules for controllable sustained release of active ingredients	AIBN	Available				
Plant Root Fungal Protection	Novel mechanisms and compounds for plant protection against plant root fungal pathogens	UQSc & IMB	Available				
Rough microcapsules	Silica microcapsules with rough projections to ensure adhesion to plants for active delivery	AIBN	Available				
BenPol - Bentonite Complex	Nanoparticle platform for delivery of RNAi mediated crop protection against chewing insects	QAAFI & AIBN	Available				

UQ Faculty and Institutes

- AIBN** Australian Institute for Bioengineering & Nanotechnology
- IMB** Institute for Molecular Bioscience
- QAAFI** Queensland Alliance for Agriculture and Food Innovation
- UQSc** Faculty of Science
- EAIT** Faculty of Engineering, Architecture and Information Technology

Technology Readiness Levels (TRLs)

- 1 Basic principles observed and reported
- 2 Technology concept &/or application formulated
- 3 Analytical and experimental critical function &/or characteristic proof of concept
- 4 Validation in lab environment
- 5 Validation in relevant environment
- 6 Prototype demonstration in relevant environment
- 7 Prototype demonstration in operational environment
- 8 Test demonstration
- 9 Routine use

ANIMALS

Asset Name	Description	Faculty or Institute	Partnered or Available	TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
Animal Production							
PAC-701 & 901	Winter adapted lucerne species with disease and pest resistance	UQSc	Licensed: PGG Wrightsons				
Redlands	Psyllid resistant variety of the Leucaena forage legume	UQSc	Licensed: LeucSeeds & Carnarvon				
Tarramba	High yield, cool tolerant, low weed risk Leucaena forage legume	UQSc	Licensed: LeucSeeds				
PACL-501	Highly persistent variety of grazing Lucerne	UQSc	Licensed: PGG Wrightsons				
Probiotic livestock feed	Novel bacillus inoculation of livestock feed for probiotic gains	UQSc	Industry Partnered				
Maternal Trait Markers	Functional genetic markers for maternal beef cattle reproductive traits	UQSc & QAAFI	Industry Partnered				
Natural feed additives	Novel additives for preservation of animal feed	QAAFI	Industry Partnered				
Rumen Efficiency	Ruminant nutritional products to optimise feed efficiency and reduce methane emissions	UQSc	Industry Partnered				
Rough microcapsules	Natural antibiotic delivery for feed supplements	AIBN	Industry Partnered (Asia Pac)				
Algae livestock feed	Cost-efficient algae production systems for livestock feed and supplements	UQSc	Available				
Animal Health							
Cane toad trap	Cane toad tadpole attractant	IMB	Licensed: SpringStar				
Natural anthelmintic	Natural anthelmintics from microbes for treatment of livestock	IMB	Industry Partner				
Rough microcapsules	Silica microcapsules with rough projections to ensure adhesion to fur for active delivery	AIBN	Industry Partner				
Single Drop Genomics	Rapid, general purpose genomic testing assay requiring very little equipment for on-site testing for pathogens	AIBN & UQSc	Licensed: Xing Technologies				
Vaccine delivery platform	Nanovesicles for adjuvant-free delivery of subunit antigen vaccines	QAAFI & AIBN	Industry Partner				
Flocculation Diagnostic	A simple and effective amplified DNA diagnostic readout system, particularly suited for in-field testing and diagnostics	UQSc	Available				
Rapid Nucleic Acid Extraction	Method for extraction of amplification-ready nucleic acids from crude tissue samples in just 30 seconds	UQSc	Available				
EHEC Vaccine	Novel antigens to reduce enterohaemorrhagic E. coli (EHEC) excretion by cattle.	UQSc	Available				
Natural cattle tick control	Micro-encapsulated tea tree oil formulations for control of cattle tick	QAAFI & UQSc	Available				
Silica Nanocapsules	Silica micro/nanocapsules for high active ingredient loading and controllable sustained release	AIBN	Available				
Tick vaccine	Vaccine for the Australian paralysis tick (Ixodes holocyclus)	QAAFI	Available				
VLP Vaccine System	Recombinant protein derived low cost VLPs that can display large viral sequences	AIBN	Available				
Lysozyme Encapsulation	Long-acting, targeted antimicrobial action using a natural antibiotic loaded in silica microcapsules.	AIBN	Available				

POST HARVEST & FOOD

Asset Name	Description	Faculty or Institute	Partnered or Available	TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
Novel Bacteria for hay (H57)	Novel bacillus strain for control of mould in cut hay	UQSc	Industry Partnered				
Perkii™	A new juice and water, low calorie probiotic drink using the ProGel™ technology	UQSc	Start-up: Perkii Pty Ltd				
ProGel™	Micro-gel encapsulation of active food supplements, human and animal drugs requiring liquid stable, low cost, scalable taste masking and controlled release	UQSc	Start-up: Progel Pty Ltd				
Healthy Baked Goods	New baked good recipes incorporating specific, cholesterol-lowering functional food additives from plant cells	QAAFI	Available				
Flocculation Diagnostic	A simple and effective amplified DNA diagnostic readout system, particularly suited for in-field food safety testing	UQSc	Available				
Rapid Nucleic Acid Extraction	Method for extraction of amplification-ready nucleic acids from crude food samples in just 30 seconds	UQSc	Available				
Ripestuff™	Ethylene powder for in-transit fruit ripening	UQSc	Available				
Algal food additives	Natural algal flavour and colour enhancers from cost-effective production systems	UQSc	Available				
Probisafe™	Probiotic lactic acid bacteria which kill/inhibit the growth of Salmonella & Listeria on fresh food products.	UQSc	Available				
Algae food products	Food products using whole fresh unprocessed microalgae. Strains with optimum cell wall structure for digestibility matched with high yielding bioactives.	UQSc	Available				

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