

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							
TT Canola Hybrids	Triazine tolerant canola variety for high rainfall areas and protoplast fusion hybridization technique	UQSc	Advanta Seeds				
Aussie Colours®	Water efficient flowering ornamental plants	UQSc	Aussie Colours Pty Ltd				
XPT-UQ1203 Wheat	PHS resistance in elite germplasm using UQ speed breeding technology	QAAFI	Dow AgroSciences				
Ruhbi™ Bayberry	New fruit for the western world - high yielding, sweet and high in antioxidants	UQSc	PVA (AU & NZ) and AIGN (ROW)				
Ecoturf	Hard wearing, industrial strength landscaping grass	UQSc	Partnered				
Avostock	Platform for clonal propagation of avocado rootstock	QAFFI	Under negotiation				
XPT-UQ1201 Wheat	PHS resistance in elite germplasm using UQ speed breeding technology	QAAFI	PGG Wrightson				
SugarBooster™	Sugarcane and sweet sorghum varieties with increased sugar content	UQSc	Available				
QuGene	Plant breeding simulation tools to investigate characteristics of genetic material undergoing repeated cycles of selection	UQSc	Available				
QuGrains	Rapid trait introgression platform for plant breeding	UQSc & QAAFI	Available				
O'Hara barley	Multi-disease resistance in elite Scarlett variety using UQ speed breeding technology	QAAFI	Available				
High Bread	Wheat protein and genomics that give good bread rising properties	QAAFI	Available				
Sorghum Digestibility	Modified sorghum seed proteins to increase total protein content and digestibility	UQSc	Available				
Ethylene powder	Novel delivery of ethylene for stimulation and growth promotion	UQSc	Available				
Sucrose Yield Enhancement	Increased sucrose accumulation in sugarcane and sugarbeet	UQSc	Available				
Midas Maize	Maize and popcorn varieties rich in zeaxanthin for novel food products with reduced artificial colours and macular health benefits	QAAFI	Available				
SupaSorghum	Protein modification and genomics for increased grain size, protein content and digestibility	UQScI	Available				
UAV crop analysis	Power efficient UAV design platform with long flight times, coupled with crop imaging analysis tools	EAIT	Available				
FlourMAX	Wheat proteins and genomics associated with high yields of flour on milling	QAAFI	Available				
Plant Disease and Pest Control							
Di-Bak Parkinsonia	Fungal bioherbicide and novel application method for woody weed control	UQSc	BioHerbicides Australia (Aus)				
Nexgen Plants	Novel platform for development of virus resistant varieties for major crops using transgenic, cisgenic and marker assisted breeding methods	UQSc	Nexgen Plants Pty Ltd				
OAIP	Orally active insecticidal peptides from spider venom	IMB	Under negotiation				
Bioclay	Nanoparticle delivery platform for application of RNAi mediated crop protection	QAAFI & AIBN	NuFarm				
Single Drop Genomics	Rapid, general purpose genomic testing assay requiring very little equipment for on-site testing for pathogens	UQSc & AIBN	Xing Technologies				
Caterpillar biocontrol	Platform for improvement of baculovirus production yields for economical biopesticides	AIBN & UQSc	Partnered				
Fungal biocontrol	Growth promotion and biocontrol of fungal pathogens with novel bacillus species	UQSc	Available				
Accuspray	Spray precision calculator to maximise agrochemical spray quality and minimise drift	UQSc	Available				
Rough microcapsules	Silica microcapsules with rough projections to ensure adhesion to plants for active delivery	AIBN	Available				
Nanocapsules for active delivery	Silica micro/nanocapsules for controllable sustained release of active ingredients	AIBN	Available				
Cyclotides	Plant derived biopesticides and stable peptide structures for bioengineering new pesticides	IMB	Available				
Natural Biotrophic/ Hemi-Biotrophic Protection	Novel mechanisms and compounds for plant protection against biotrophic/hemi-biotrophic pathogens	UQSc & IMB	Available				

UQ Faculty and Institutes

AIBN Australian Institute for Bioengineering & Nanotechnology | **CILR** Centre of Excellence for Integrative Legume Research
IMB Institute for Molecular Bioscience | **QAAFI** Queensland Alliance for Agriculture and Food Innovation
SCMB School of Chemistry & Molecular Biosciences | **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

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ANIMALS

Asset Name	Description	Faculty or Institute	Partnered or Available	TRL 1-3	TRL 4-5	TRL 6-7	TRL 8-9
Animal Production							
Tarramba	High yield, cool tolerant, low weed risk Leucaena forage legume	UQSc	LeucSeeds				
Redlands	Psyllid resistant variety of the Leucaena forage legume	UQSc	LeucSeeds & Carnarvon				
PAC-701 & 901	Winter adapted lucerne species with disease and pest resistance	UQSc	PGG Wrightsons				
PACL-501	Highly persistent variety of grazing Lucerne	UQSc	PGG Wrightsons				
Probiotic livestock feed	Novel bacillus inoculation of livestock feed for probiotic gains	UQSc	Under negotiation				
Natural feed additives	Novel additives for preservation of animal feed	QAAFI	Under negotiation				
Maternal Trait Markers	Functional genetic markers for maternal beef cattle reproductive traits	UQSc & QAAFI	Subject to option				
Algae livestock feed	Cost-efficient algae production systems for livestock feed and supplements	UQSc	Available				
Rumen Efficiency	Ruminant nutritional products to optimise feed efficiency and reduce methane emissions	UQSc	Available				
Natural antibiotic delivery	Silica microcapsules used for delivery of feed supplements	AIBN	Available				
Animal Health							
Cane toad trap	Cane toad tadpole attractant	IMB	SpringStar				
Single Drop Genomics	Rapid, general purpose genomic testing assay requiring very little equipment for on-site testing for pathogens	AIBN & UQSc	Xing Technologies				
Anthelmintic	Natural anthelmintics from microbes for treatment of livestock	IMB	Subject to option				
Rapid Nucleic Acid Extraction	Method for extraction of amplification-ready nucleic acids from crude tissue samples in just 30 seconds	UQSc	Available				
Flocculation Diagnostic	A simple and effective amplified DNA diagnostic readout system, particularly suited for in-field testing	UQSc	Available				
Molecular Clamp	Novel protein vaccine for RSV and other enveloped viruses	UQSc	Available				
VLP Vaccine System	Recombinant protein derived low cost VLPs that can display large viral sequences	AIBN	Available				
Tick vaccine	Vaccine for the Australian paralysis tick (Ixodes holocyclus)	QAAFI	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				
Vaccine delivery platform	Nanovesicles for adjuvant-free delivery of subunit antigen vaccines	QAAFI & AIBN	Available				
Active delivery via fur	Silica microcapsules with rough projections to ensure adhesion to fur for active delivery	AIBN	Available				
Lysozyme Encapsulation	Long-acting, targeted antimicrobial action using a natural antibiotic loaded in silica microcapsules	AIBN	Available				
Better veterinary anaesthesia	Side effect free neurosteroidal anaesthesia	UQSc	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
HayRite	Novel bacillus strain for control of mould in cut hay	UQSc	Partnered				
Perkii™	A new juice and water, low calorie probiotic drink using the ProGel technology	UQSc	Perkii Pty Ltd				
ProGel™	Micro-gel encapsulation of active food supplements requiring liquid stable, low cost, scaleable taste masking and controlled release	UQSc	ProGel Pty Ltd				
Isomaltulose synthase	Efficient system for isomaltulose production from sucrose	UQSc	Partnered				
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				
Long life fresh milk	Non thermal pasteurization for extending shelf life of fresh milk enabling cheap transport for distant markets	UQSc	Available				
Rapid cheese	Probiotic bacteria that produce cheesy flavour and aroma in milk culture within 24hrs	UQSc	Available				
Cold spreadable butter	Butter that is spreadable straight from the fridge but resistant to melting with reduced propensity for going rancid	UQSc	Available				
Algae food products	Food products using whole fresh unprocessed microalgae with high bioactive content	UQSc	Available				