

INVESTMENT	PARTNER	2020-21 EXPENDITURE
OBJECTIVE 1: IMPROVE YIELD AND YIELD STABILITY		
Maintaining wheat grain number under reproductive-stage drought conditions	CSIRO	54,587.50
Determining yield under frost one degree at a time	Department of Primary Industries and Regional Development	12,500.00
Collection, phenotyping and exploitation of wild Cicer genetic resources for chickpeas	CSIRO	180,000.00
Identifying low pH tolerance and effective rhizobia for wild Cicer to improve adaptation to acid sandy soils	Murdoch University	60,000.00
Genetics of wild germplasm, gene-pool expansion and integrated ASSD approach	Curtin University	87,500.00
Novel approaches against LMA - Knockout	CSIRO	32,731.50
Innovative approaches to managing subsoil acidity in the southern grain region	Department of Regional NSW	108,829.50
Improving wheat yields on sodic, magnesic, and dispersive soils	The University of Adelaide	275,713.74
Validation trials for dwarfing genes, vigour x management interactions, and preliminary assessment of rate of grain-filling	CSIRO	68,931.50
Screening of frost tolerance in cereals	The University of Adelaide	75,000.00
Introgression of heat-tolerant genes to broaden genetic variation in current wheat breeding populations	University of Sydney	252,189.26
Identification of wheat frost tolerance loci using a combination of genetics, biochemistry and molecular approaches	CSIRO	95,962.75
Developing farming systems for the LRZ of Western Australia	CSIRO	487,005.00
Pulse Breeding Australia: Faba Bean Breeding	The University of Adelaide	1,330,722.00
Soil Constraints-West Steering Committee	Bob Nixon	2,143.20
Understanding the amelioration processes of the subsoil application of amendments in the southern region	Department of Jobs, Precincts and Regions	1,100,064.00
Increasing production on sandy soils in low and medium rainfall areas of the southern region	CSIRO	1,397,020.00
Understanding the implications of new traits on adaptation, crop physiology and management of pulses in the southern region	Department of Jobs, Precincts and Regions	551,971.00
Chairman of the GRDC Soil Constraints West Committee	The Trustee for PLUSKE FAMILY TRUST	15,479.57
Soil Constraints West Steering Committee	J & D Even & Sons	1,791.00
Soil Constraints West Steering Committee	Mark Pearce	6,222.36
Soil Constraints West Steering Committee	Tony White	2,974.91
Soil Constraints West Steering Committee	Agrarian Management	3,976.73
An integrated platform for rapid genetic gain in pulse crops	University of Western Australia	658,000.00
Development of crop management packages for early sown, slow developing wheats in the Southern region	La Trobe University	50,000.00
Improving farming system efficiency in southern NSW	CSIRO	645,000.00
Assessment of N and water co-limitations by remote sensing as a tool to improve wheat and canola profitability and manage risk	The University of Adelaide	-97,152.75
Australian Research Council (ARC) Industrial Transformation Research Hubs: Genetic Diversity and molecular breeding for wheat in a hot and dry climate	The University of Adelaide	37,500.00
Maintenance of grain plumpness and transfer of heat tolerance into Australian barley germplasm	Murdoch University	400,000.00
Quantifying the effectiveness of cover crops as a means of increased water infiltration and reduced evaporation in the northern region	Queensland Department of Agriculture and Fisheries	120,000.00
Improved Adaption of Barley to Acid Soils	Murdoch University	35,281.25
Australian National Vetch Breeding Program	SA Research and Development Institute	325,932.00
National Soybean Breeding Program 2017 - 2021	CSIRO	500,624.00
Pulse Breeding Australia: Field Pea Breeding	Department of Jobs, Precincts and Regions	787,308.00
Pulse Breeding Australia: Lentil Breeding	Department of Jobs, Precincts and Regions	729,057.00
National Mung Bean Improvement Program	Queensland Department of Agriculture and Fisheries	352,500.00
NSW DPI Bilateral Agreement - Winter Agronomy	Department of Regional NSW	2,267,009.00
NSW DPI Bilateral Agreement - Winter Pathology	Department of Regional NSW	2,345,168.00
NSW DPI Bilateral Agreement - Infrastructure	Department of Regional NSW	1,346,623.00
A genetic diversity toolkit to maximise harvest index by controlling the duration of developmental phase	CSIRO	83,908.00
Future Durum Breeding	Department of Regional NSW	1,250,000.00
Capacity building to understand plant energy efficiency in harsh environments	University of Western Australia	25,000.00
Economics of ameliorating soil constraints in the northern region: Economics of adoption	University of Southern Queensland	116,804.00
Economics of ameliorating soil constraints in the northern region: Spatial soil constraint diagnoses	The University of Queensland	197,000.00
Economics of ameliorating soil constraints in the northern region: Program co-ordination – communication, extension and evaluation	The University of Queensland	141,846.00
Economics of ameliorating soil constraints in the northern region: Soil constraint management and amelioration	University of Southern Queensland	784,566.00
Incorporating lime to depth in duplex wheatbelt soils	Facey Group Inc.	12,000.00
Optimising timing and rate of Nitrogen application in waterlogging conditions in the Esperance Port Zone	SEPWA	25,500.00
PulseBio Project 3: Stable grain yield in pulses through improved stress tolerance	Department of Jobs, Precincts and Regions	567,526.00
Demonstrating the benefits of soil amelioration and controlled traffic practices across a broad range of soil types in Western Australia.	West Midlands Group	109,268.00
Ripper Gauge Demonstration sites Albany port zone	Stirlings to Coast Farmers	22,000.00
Optimising plant establishment, density and spacings to maximise crop yield and profit in the southern and western regions	The University of Adelaide	463,479.00
Summer Cropping Demonstrations in the Western Region	Southern Dirt	5,000.00
Ripper Gauge Demonstration sites - Esperance Port Zone	SEPWA	30,000.00
Optimising mungbean yield in the northern region - Mungbean Physiology	The University of Queensland	288,263.00
Optimising mungbean yield in the northern region - Mungbean Agronomy	Queensland Department of Agriculture and Fisheries	228,000.00
Leveraging generic resources and associated data from Chickpea Feed the Future Innovation Lab in the US	UC Davis	110,285.00
Adapted barley germplasm with waterlogging tolerance for the southern and western regions	University of Tasmania	312,230.00

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Canola pre-breeding investment	Department of Regional NSW	30,000.00
Improving grower profits through longer season wheat crops	Central West Farming Systems	25,000.00
Lupin Breeders Toolbox - A Resource for Lupin Genetic Improvement	CSIRO	399,225.00
Licence and Support Contract – NVT Online Website Support and Maintenance	Kobe Creations	59,024.00
Optimising sorghum yield through agronomic management	The University of Queensland	766,950.00
Soil Constraints West Steering Committee	Agronomy Focus Pty Ltd	8,253.79
Services Agreement	University of Wollongong	268,500.00
Pulse Check – local extension and communication for profitable pulse production in South West NSW	FarmLink Research Limited	94,050.00
Services Agreement	Eurofins Agrosience Services Pty Ltd	182,084.80
Pulse Check – local extension and communication for profitable pulse production in Central West NSW	FarmLink Research Limited	96,050.00
Pulse Check - local extension and communication for profitable pulse production in North East NSW	Crop Consultants Australia Incorporated	80,000.00
Services Agreement	Kalyx Australia Pty Ltd	137,025.00
Pulse Check – local extension and communication for profitable pulse production in Central East NSW	FarmLink Research Limited	93,050.00
Pulse Check – local extension and communication for profitable pulse production in Eastern Downs QLD	PulseAg Consulting	80,000.00
Pulse Check – local extension and communication for profitable pulse production in South East NSW	FarmLink Research Limited	96,050.00
National Oat Breeding Program	SA Research and Development Institute	1,018,477.00
Services Agreement	Department of Regional NSW	61,071.76
Rooty: A root ideotype toolbox to support improved wheat yields	The University of Queensland	20,100.00
Optimising Canola Production in Diverse Australian Growing Environments	CSIRO	733,185.00
Warm and cool season mixed cover cropping for sustainable farming systems in south eastern Australia	Ag Excellence Alliance Inc	20,000.00
A holistic approach to seep management for preventing land degradation in the landscape	Mallee Sustainable Farming Inc	80,000.00
Building the resilience and profitability of cropping and grazing farmers in the high rainfall zone of Southern Australia	Southern Farming Systems	50,000.00
Next generation plant breeding: integrating genomic selection and high throughput phenotyping to enhance genetic gain in sorghum and mungbeans	The University of Queensland	99,912.00
Optimising profitability of high rainfall zone farming systems-survey, farmer-scale demonstration trials and field days	Stirlings to Coast Farmers	50,000.00
Expanding the sowing window for canola and lupins: what works in WA?	Department of Primary Industries and Regional Development	250,000.00
Re-engineering soils to improve the access of crop root systems to water and nutrients stored in the subsoil	Department of Primary Industries and Regional Development	1,911,697.00
High Value Pulses – Raising awareness, optimising yield and expanding the area of lentil, chickpea and faba bean in Western Australia	Department of Primary Industries and Regional Development	374,000.00
Investigating phenology diversity in germplasm to optimise profitability from April sown oats	Department of Primary Industries and Regional Development	303,000.00
Increasing farming system profitability and longevity of benefits following soil amelioration	Department of Primary Industries and Regional Development	1,568,743.00
Increased grower profitability on soils with sodicity and transient salinity in the eastern grain belt of the Western Region.	Department of Primary Industries and Regional Development	524,568.00
Extension of best practice principles for identifying and managing soil limitations in southern and central NSW	FarmLink Research Limited	57,976.00
Capturing global diversity and international genetic gains of wheat and barley	University of Sydney	550,100.00
Optimising high rainfall zone cropping for profit in the western and southern regions	Department of Primary Industries and Regional Development	534,694.00
Post-doctoral Fellowship - Understanding sorghum root growth and function in cold soils	The University of Queensland	57,999.00
Post-doctoral Fellowship - Enhancing Genomic Prediction for Sorghum to deal with genotype-by-environment interactions for yield	The University of Queensland	275,000.00
Non-wetting management options for growers in the Albany port zone	Southern Dirt	10,000.00
NVT Research Platform Development and Support	Storyboard Multimedia Australia Pty Ltd	369,749.87
Multi-species DNA chip platform - A resource for pulse genetic improvement	Department of Jobs, Precincts and Regions	345,120.00
New knowledge and practices to address topsoil and subsurface acidity under minimum tillage cropping systems of South Australia	The University of Adelaide	462,000.00
'Golden Rules for Canola in the Kwinana East port zone' booklet	Cussons Media Pty Ltd	35,829.00
Investment in WA-focused Linseed Agronomy	Southern Dirt	17,500.00
Services Agreement	SA Research and Development Institute	568,748.30
Pathology Services Agreement	Department of Primary Industries and Regional Development	474,663.60
Pathology Services Agreement	Department of Regional NSW	471,697.60
Pathology Services Agreement	Department of Jobs, Precincts and Regions	302,300.50
Pathology Services Agreement	University of Southern Queensland	578,067.40
Pathology Services Agreement	Marcroft Grains Pathology Pty Ltd	215,724.00
Pathology Services Agreement	Queensland Department of Agriculture and Fisheries	105,000.00
Frost SENSE: An integrated modelling framework to rapidly map the extent of stem and reproductive frost damage in wheat and barley	CSIRO	259,755.00
Construction of a subsoiler machine, trailer and integrated seeder kit to help deliver validation/demonstration trials on sandy soils	University of South Australia	12,800.00
Improving canola heat tolerance - a coordinated multidisciplinary approach	University of Western Australia	600,000.00
Increasing return on investment from canola seed through improved establishment - Program 1	CSIRO	200,000.00
Accelerating Post-Entry Quarantine (PEQ) processing and delivery of 1st 2nd & 3rd batch of wild-elite chickpea segregation population	The University of Adelaide	134,775.10
Improving production of grower retained open pollinated canola seed using agronomic management to increase establishment in the MRZ and LRZ of the GRDC Northern Region.	Department of Regional NSW	200,000.00

INVESTMENT	PARTNER	2020-21 EXPENDITURE
HRZ - High yielding red wheat	Bunge Agribusiness Australia Pty Ltd	15,000.00
Post-doctoral Fellowship: Integrating yield optimisation in mungbean	La Trobe University	153,117.00
Using long season wheats for increases in profits and grazing opportunities	Southern Dirt	55,000.00
Transitioning to the Chickpea Breeding Program 2020-2025	Department of Regional NSW	1,050.00
Optimising the profitability of high rainfall zone farming systems - survey, farmer-scale demonstration trials and field days	SEPWA	50,000.00
Maintain the longevity of soils constraints investments and increase grower adoption through extension - western region	The Trustee for PLUSKE FAMILY TRUST	195,000.00
Victorian Grains Innovation Partnership	Department of Jobs, Precincts and Regions	4,828,745.36
Regional harvester set-up workshops	Primary Sales Australia Pty Ltd	458,816.00
Leveraging existing international germplasm	UC Davis	600,000.00
Manipulation of stomata to increase yield potential in wheat	The University of Adelaide	445,000.00
Demonstrating the effects of reduced lupin seed integrity on crop establishment	The Liebe Group Incorporated	45,000.00
Services Agreement	EPAG Research Trust	136,435.22
Services Agreement	Kalyx Australia Pty Ltd	2,653,845.20
NVT Sowing Guides	Coretext	86,135.02
Services Agreement	AgXtra	261,302.85
Services Agreement	SA Research and Development Institute	831,513.34
Services Agreement	Northern Australia Crop Research Alliance PTY LTD	33,098.00
Services Agreement	Birchip Cropping Group	750,841.05
Services Agreement	Queensland Department of Agriculture and Fisheries	239,149.40
Rapid analysis of on-farm lime sources	GHD	35,114.17
Services Agreement	Department of Regional NSW	856,204.00
Services Agreement	Southern Farming Systems (SFS)	244,100.50
Utilising novel genetic diversity to increase Barley yields nationally	The University of Adelaide	270,342.00
Services Agreement	Living Farm Pty Ltd	1,968,297.10
Chickpea Breeding Australia 2020-2025	Department of Regional NSW	4,000,000.00
Queensland winter crop sowing guide 2020, 2021 and 2022	Albatross Rural Consulting	25,000.00
NVT Victorian crop sowing guides 2020-2022	Department of Jobs, Precincts and Regions	35,000.00
Optimal nutrition packages for renovated cemented lateritic gravels to increase farm profitability	Croppportunity Pty Ltd ATF The Window of Opportunity Trust	15,000.00
Understanding return on investment of sub-surface water management options for waterlogged areas in the Western Region (Albany Port Zone)	Stirlings to Coast Farmers	70,000.00
Dry sowing Guide for the HRZ of the Southern Region	Coretext	13,760.00
Understanding return on investment of sub-surface water management options for waterlogged areas in the Western Region	South Coast Natural Resource Management Inc.	95,000.00
Barley Agronomic Strategies For The Geraldton Port Zone	Kalyx Australia Pty Ltd	82,000.00
Hyper Yielding Crops	Field Applied Research Australia Ltd	2,069,143.00
Increasing the profitability of the double break rotation in the medium rainfall zone of WA	West Midlands Group	100,000.00
Incorporation of organic soil ameliorants to boost productivity of sandy soils in the medium to high rainfall zones of the Wheatbelt of Western Australia.	CORRIGIN Farm Improvement Group	29,463.00
Agronomic management of weeds, crop nutrition and farming practices in central west NSW to maximise crop profitability	Grain Orana Alliance Inc	573,800.00
Oat genomic resources for breeders and pre-breeders	Murdoch University	100,000.00
Maintaining Profitable Farming Systems with Retained Stubble	WANTFA	10,000.00
Optimising genetic control of oat phenology for Australia	CSIRO	284,072.00
Review of biological (plant based) options to alleviate soil compaction	West Midlands Group	12,000.00
Improving crop germination and establishment of all grains, especially canola, when dealing with non wetting soils, stubble loads and different stubble types	Trialco Pty Ltd	85,000.00
Leveraging international germplasm to deliver improved chickpea chilling tolerance	CSIRO	873,485.00
Future peanut breeding	Peanut Company of Australia	350,000.00
Sorghum midge testing scheme	Queensland Department of Agriculture and Fisheries	18,918.18
Integrating research solutions for improving profitability in summer dominated rainfall systems	Queensland Department of Agriculture and Fisheries	1,331,556.00
Applying current knowledge to inform grower decision making to mitigate the impact of frost, now and in the future - southern region	Mallee Sustainable Farming Inc	200,000.00
Chairman:GRDC Soil Constraints West Committee	The Trustee for PLUSKE FAMILY TRUST	16,068.65
Applying current knowledge to inform grower decision making to mitigate the impact of frost, now and in the future	Grower Group Alliance	140,000.00
Applying current knowledge to inform grower decision making to mitigate the impact of frost, now and in the future – southern NSW and central NSW.	FarmLink Research Limited	50,000.00
More profitable crops on highly calcareous soils by improving early vigour and overcoming soil constraints	CRC for High Performance Soils	500,000.00
Services Agreement	SA Research and Development Institute	29,874.78
Soil Constraints West Steering Committee	Genocanna AG	1,760.00
Soil Constraints West Steering Committee	Bob Nixon	1,743.20
Soil Constraints West Steering Committee	J & D Even & Sons	5,000.00
Developing more informed decisions for management of infertile sandy soils in the southern Mallee region	The University of Adelaide	273,364.00
2020 and 2021 NVT hybrid sorghum performance report	Coretext	6,900.00
2021 and 2021 NVT hybrid sorghum performance report	Albatross Rural Consulting	14,000.00
Integrated farming systems in the medium rainfall zone of southern Australia	The University of Adelaide	197,259.00
Transition investment to secure critical outputs from current UQ00070 and previous Sorghum core pre-breeding investments	The University of Queensland	222,747.00
An analysis of 3D soil constraint diagnosis and options for on the go management of variable soil types	Colere Group	62,650.00

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Australian soybean industry assessment	Australian Oilseeds Federation Inc	52,500.00
Agronomic management of weeds, crop nutrition and farming practices in Northern NSW & Southern QLD to maximise crop profitability	Northern Grower Alliance Incorporated	830,400.00
Statistical services	Data Analysis Australia	12,500.00
Understanding constraints to crop profits on highly calcareous soils	CSIRO	250,000.00
Practical tactics to improve ground cover and ensure soil preservation following successive low rainfall seasons	Mallee Sustainable Farming Inc	55,000.00
Impact of stripper header fronts and straw length on soil evaporation and fallow efficiency	FarmLink Research Limited	143,950.00
Durum Breeding Australia consultancy	Snowy Advisory Pty Ltd	22,554.00
Durum Breeding Australia – evaluation	Mr John Oliver	11,250.00
Durum Breeding Australia – evaluation	AgLight Project Management	7,500.00
Durum Breeding Australia – evaluation	Agalign Ag Pty Ltd	7,500.00
Durum Breeding Australia – evaluation	Peter Martin	4,375.00
Services Agreement	Northern Australia Crop Research Alliance PTY LTD	7,684.00
2020 NVT zone harvest reports	SE Knights Consulting	42,287.50
Better understanding farming system and/or agronomic changes to maximise profitability of the long coleoptile trait in wheat – CQLD & SWQLD	Queensland Department of Agriculture and Fisheries	46,825.98
Development and extension to close the economic yield gap and maximise farming systems benefits from grain legume production in Victoria	Department of Jobs, Precincts and Regions	141,500.00
Managing soils post-amelioration in the Upper South East SA	MacKillop Farm Management Group	50,000.00
2020 NVT zone harvest reports	Coretext	66,680.00
Investigating the value of companion cropping systems of chickpea and cereals for improved crop and fallow water use efficiency	Queensland Department of Agriculture and Fisheries	23,000.00
Assessment of current and future impact of heat on Australian wheat yields	The University of Queensland	31,020.00
Development and extension to close the economic yield gap and maximise farming systems benefits from grain legume production in New South Wales	Brill Ag	181,300.00
Durum extension and development	Southern Australia Durum Growers Association Inc	20,000.00
Best practice liming demonstration to address subsoil acidity in North Eastern Victoria	Riverine Plains Inc	40,000.00
Farming systems and agronomic changes for integration of long coleoptile wheat in the western region	SLR P/L	105,000.00
Development and extension to close the economic yield gap and maximise farming systems benefits from grain legume production in South Australia	The University of Adelaide	308,750.00
Soybean industry summary and third-party licensee review	SGA Solutions Pty Ltd	10,000.00
Validation and extension of farming system sequences to maximize WUE in low rainfall sandy soils of South West NSW	Grain Orana Alliance Inc	124,875.00
Improving assessments of yield gaps to inform opportunities for increased productivity and profitability	CSIRO	19,000.00
National vetch breeding program	The University of Adelaide	90,000.00
National lentil reeding program	Department of Jobs, Precincts and Regions	1,000,000.00
Durable resistance to oat crown rust	CSIRO	20,000.00
National field pea breeding program	Department of Jobs, Precincts and Regions	271,350.00
Durable resistance to oat crown rust	University of Sydney	30,375.00
	Objective Total	68,933,202.24
OBJECTIVE 2: MAINTAIN AND IMPROVE PRICE		
Genetic approaches to reduce the nitrogen dilution effect and increase nitrogen-use efficiency in wheat	Murdoch University	40,625.00
IP Sub-Licence and Materials Supply Agreement - LMA	SA Research and Development Institute	50,000.00
Quantifying the value of pulse grains	Department of Jobs, Precincts and Regions	378,343.00
Expanding options for sorghum: food and distilling	Charles Sturt University	210,000.00
Australian Export Grain Innovation Centre	Australian Export Grains Innovation Centre	3,000,000.00
Building capacity, skills and knowledge for the pulse industry in the southern region: Supporting expansion of high value pulses into new areas and ensuring sustained profitability of all key pulse crops in existing areas	Birchip Cropping Group	662,400.00
Better sorghum: larger grain with more protein	The University of Queensland	145,000.00
Demonstrations of Legume crops for reliable profitability in the Albany Port Zone	Stirlings to Coast Farmers	20,000.00
Demonstration of Legume crops for profitability in the Western Region	The Liebe Group Incorporated	55,000.00
Legumes for profitability in the Esperance Port Zone	SEPWA	20,000.00
Australian wheat classification	Wheat Quality Australia	200,000.00
Research agreement	Barley Australia	161,333.00
Development and validation of soil amelioration and agronomic practices to realise the genetic potential of grain crops grown under a high yield potential, irrigated environment in the northern and southern regions	Field Applied Research Australia Ltd	810,000.00
Facilitated action learning groups to support profitable irrigated farming systems in the northern and southern regions.	Irrigated Cropping Council Inc	385,000.00
Northern Australia agronomy	Northern Australia Crop Research Alliance PTY LTD	194,660.00
Co-Funding Agreement	CRC For Developing Northern Australia Ltd	112,315.00
Improving the adaptation and profitability of high value pulses (chickpea and lentil) across Australian agroecological zones	University of Tasmania	750,000.00
An improved model of Late Maturity alpha-Amylase (LMA) field risk in Australian wheat.	The University of Queensland	629,448.00
The development of an accurate, high throughput, affordable and relevant screen for LMA risk for the Australian wheat industry	The University of Adelaide	406,738.00
A novel high-throughput, low-cost test to determine cause of starch damage in wheat grain	Department of Jobs, Precincts and Regions	399,663.00
Improved phenotyping for Late Maturity Alpha-Amylase (LMA) susceptibility in wheat	Department of Jobs, Precincts and Regions	366,738.00
How does behaviour impact the technical choices that are made to grow better quality wheat	Farmanco Management Consultants Pty Ltd	90,000.00
Smarter irrigation for profit - Phase 2	Cotton Research and Development Corporation	90,000.00
Pulse Australia - focused capacity funding	Pulse Australia Limited	100,000.00

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Technical and data management support	The University of Queensland	10,000.00
Phosphorus response curves for pulses in the Esperance and Albany Port Zones	Kalyx Australia Pty Ltd	45,000.00
Facilitation of pigeonpea in Australian farming systems: stakeholder workshop	Colere Group	7,700.00
	Total	9,339,963.00
OBJECTIVE 3: OPTIMISE INPUT COSTS		
Genetically improving wheat's ability to outcompete weeds	CSIRO	252,632.00
Assessing collections of wild chickpea relatives for resistance to root-lesion nematodes	University of Southern Queensland	150,000.00
Improved genetic solutions for management of yellow spot in wheat	Department of Primary Industries and Regional Development	82,978.25
Effective genetic control of Stagonospora nodorum blotch	Department of Primary Industries and Regional Development	214,000.00
Development of gene deployment strategies: using evolutionary principles to optimise the development of genetic resistance in crops	CSIRO	87,500.00
Molecular markers for root hair traits and enhanced phosphorus use efficiency in wheat	CSIRO	181,129.31
Air inversion modelling to manage spray drift	Micrometeorological Research and Educational Services (MR&ES)	25,000.00
Locally Important Weeds	Department of Primary Industries and Regional Development	197,052.00
Updated nutrient response curves in the northern and southern regions	The University of Queensland	379,791.00
Genetic solution to crown rot in barley	CSIRO	201,356.00
Cultural management for weed control and maintenance of crop yield	The University of Adelaide	896,709.00
New tools and germplasm for Australian pulse and oil seeds breeding programs to respond to changing virus threats	Department of Regional NSW	178,058.00
Herbicide Innovation Partnership	Bayer CropScience Pty Ltd	9,000,000.00
Centre for Crop and Disease Management	Curtin University	6,000,000.00
Development of genetic tools for Australian barley crops against leaf rust	University of Sydney	149,904.15
Development of tools to accelerate nematode resistance gene deployment	The University of Adelaide	68,750.00
Innovative crop weed control for northern region cropping systems	University of Sydney	1,921,283.44
Genetic control of nematode species affecting major crops: germplasm enhancement for nematode control in cereals and pulses	University of Southern Queensland	139,189.25
Snail biocontrol revisited – Phase 2	CSIRO	151,173.00
Control of Snails and Slugs - Biological control of slugs using ciliate protozoa	The University of Melbourne	66,668.50
Australian Cereal Rust Control Program: continued monitoring of cereal rust pathogens in Australia	University of Sydney	597,361.24
Methods to predict plant available water capacity	CSIRO	350,000.00
Fertiliser form and soil interactions when applied in high concentration bands	The University of Queensland	10,000.00
Improved sampling methods to better predict nutrient availability and supply for soils in the western region	CSIRO	66,176.17
Grant Agreement priority use: adzuki beans - thrips	ISK Biosciences Oceania Pty Ltd	22,210.00
Grant Agreement priority use: peanuts - aphids/mealybugs	Bayer CropScience Pty Ltd	75,895.00
Grant Agreement priority use: mungbeans-powdery mildew	ADAMA Australia	17,953.00
Grant Agreement priority use: canola - aphids	ISK Biosciences Oceania Pty Ltd	87,997.50
Grant Agreement priority use: maize/popcorn - Northern blight	BASF AUSTRALIA LIMITED	55,270.00
Grant Agreement priority use: chickpeas-botrytis	BASF AUSTRALIA LIMITED	55,270.00
Grant Agreement priority use: soybeans - rust/sclerotinia	Bayer CropScience Pty Ltd	64,370.00
Grant Agreement priority use: sunflowers - powdery mildew	Bayer CropScience Pty Ltd	60,540.00
Increasing profit from N, P and K fertiliser inputs into the evolving cropping sequences in the western region	University of Western Australia	601,855.50
Nutrient re-distribution and availability in ameliorated and cultivated soils in the western Region	Department of Primary Industries and Regional Development	241,512.63
Endophytes for insect management in cereals	Grasslanz Technology Limited	490,000.00
Australian Cereal Rust Control Program: wheat and barley breeding support	University of Sydney	170,513.00
Boosting profit and reducing risk on mixed farms in low and medium rainfall areas with newly discovered legume pastures enabled by innovative management methods – southern region	SA Research and Development Institute	1,325,649.00
Australian Cereal Rust Control Program: novel sources of stem rust resistance from uncultivated wild relatives of wheat	The University of Adelaide	274,193.00
Australian Cereal Rust Control Program: delivering genetic tools and knowledge required to breed wheat and barley with resistance to leaf rust, stripe rust and stem rust	CSIRO	1,950,679.00
Boosting profit and reducing risk on mixed farms in low and medium rainfall areas with newly discovered legume pastures enabled by innovative management methods – western region	Murdoch University	970,096.00
Australian Cereal Rust Control Program: delivering genetic tools and knowledge required to breed wheat and barley with resistance to leaf rust, stripe rust and stem rust	University of Sydney	1,397,707.43
Development of local strategies to enable the integrated and profitable management of annual ryegrass seed banks in high rainfall zone farming systems of the southern region	The University of Adelaide	98,950.00
Supporting the sustainable use of insecticides and local on-farm implementation of integrated pest management strategies in the southern region	Birchip Cropping Group	25,000.00
Improved surveillance and management options for mice in crops	CSIRO	252,261.86
Determining the effectiveness of zinc phosphide rodenticide bait in the presence of alternative food supply	CSIRO	-44,352.50
Improving plant pest management through cross industry deployment of smart sensor, diagnostics and forecasting	Horticulture Innovation Australia Limited	475,000.00
Future Farm Phase 2: Improving farmer confidence in targeted N management through automated sensing and decision support	CSIRO	1,240,312.40
Increasing the effectiveness of nitrogen fixation in pulse crops through development of improved rhizobial strains, inoculation and crop management practices	The University of Adelaide	690,612.00
More nitrogen from pulse crops for growers in the southern region	Mallee Sustainable Farming Inc	238,292.00
Using soil and plant testing data to better inform nutrient management and optimise fertiliser investments for grain growers in the southern region	Agronomy Solutions Pty Ltd	420,921.00
Managing weeds in the northern grains region: development of technical content	Department of Regional NSW	13,650.00
Post-doctoral Fellowship - Interfacing crop improvement and agronomy/ nutrition programs	The University of Queensland	58,919.00

INVESTMENT	PARTNER	2020-21 EXPENDITURE
Post-doctoral Fellowship - When are earwigs pests and when are they beneficial?	CSIRO	45,695.00
Managing Weeds in the northern grain region: coordination of workshop material and establishment and monitoring of regional focus paddocks	Local Land Services	41,154.00
Post-doctoral Fellowship - An integrative approach towards sustainable management of sorghum stalk rot in the northern region	University of Southern Queensland	175,411.00
Grant Agreement priority use: field peas x silver grass	FMC Australasia Pty Ltd	62,289.40
Grant Agreement priority use: lentils x grass weeds & lentils x broadleaf weeds - priority use	FMC Australasia Pty Ltd	45,341.50
Grant Agreement priority use: lupins x wild radish & other broadleaf weeds	FMC Australasia Pty Ltd	36,405.60
Grant Agreement priority use: mung beans x grass weeds & mung beans x broadleaf weeds	FMC Australasia Pty Ltd	29,373.20
Understanding mouse biology and ecology in zero- and no-till cropping systems to inform best practice crop production and mouse management practices	CSIRO	635,396.00
Disease epidemiology and management tools for Australian grain growers	Department of Primary Industries and Regional Development	1,291,713.00
Herbicide behaviour workshops for the Australian grains industry	Independent Consultants Australia Network P/L (ICAN)	30,000.00
Preserving Australia's rhizobial collections	Murdoch University	306,335.30
Increasing the effectiveness of nitrogen fixation in pulses through improved rhizobial strains in the northern region	Department of Regional NSW	350,000.00
Spray Drift Inversion Hazard System Program coordination	Betzner Consulting Pty Ltd	-19,719.48
Extent of RLN throughout the grain growing regions of WA and options to address	Farmanco Management Consultants Pty Ltd	30,000.00
National resistance monitoring for insect pests of stored grain	Queensland Department of Agriculture and Fisheries	425,740.00
Demonstrating and validating the implementation of integrated weed management strategies to control barley grass in the low rainfall zone farming systems	The University of Adelaide	381,235.00
Increasing the effectiveness of nitrogen fixation in pulses through improved rhizobial strains in the western region	Murdoch University	481,000.00
Identification, surveillance and advisory platform for management of grains pests	CESAR Pty. Ltd	466,013.50
Upskilling Tasmanian growers and advisors to manage annual ryegrass through exposure to external knowledge and peer-to-peer learning	Southern Farming Systems (SFS)	15,000.00
Survey of vertebrate and invertebrate pests and beneficials harbouring in harvest weed-seed control systems	Department of Primary Industries and Regional Development	30,000.00
Survey of the summer/autumn brassica refuges for Diamondback moth in the western region	Department of Primary Industries and Regional Development	72,950.00
Australian Fungicide Resistance Extension Network (AFREN): fungicide resistance management targeted at regional level	Curtin University	594,428.00
Towards effective control of blackleg of canola: coordinating international blackleg research and development	The University of Melbourne	170,000.00
Optimising farm scale returns from irrigated grains: maximising dollar return per megalitre of water	University of Tasmania	204,528.00
Towards effective control of blackleg of canola: disease epidemiology and management	The University of Melbourne	400,000.00
Towards effective control of blackleg of canola: phenotyping for adult plant resistance	CSIRO	395,000.00
Towards effective control of blackleg of canola: identification of novel sources of blackleg resistance genes	University of Western Australia	400,000.00
Novel suppression and resistance management of invertebrate pests	The University of Melbourne	1,614,997.00
Towards effective control of blackleg of canola : infrastructure and fee for service	Department of Jobs, Precincts and Regions	500,000.00
Increasing knowledge and profitability of cropping on ironstone gravel soils	University of Western Australia	70,000.00
SoilWaterNow: soil water nowcasting for the grains industry	University of Sydney	595,572.00
Integrated weed management of herbicide resistant annual ryegrass at Lake Bolac	Southern Farming Systems (SFS)	25,000.00
Durum Crown Rot benchmarking for improved grower access to durum varieties with greater Crown Rot resistance	University of Southern Queensland	357,851.00
Post-doctoral Fellowship: Understanding P dynamics and bioavailability in alkaline clay soils	The University of Queensland	144,765.00
Virtual fencing for better crop integrated weed management	CSIRO	190,794.00
Summer weed survey of Western Australian cropping districts	AGRONOMO	52,200.00
CropPhen: remote mapping of grain crop type and phenology	The University of Queensland	518,464.00
Integrated disease management strategies for southern region cereal and pulse growers	Department of Jobs, Precincts and Regions	403,000.00
Integrated disease management in western region grain crops	Department of Primary Industries and Regional Development	395,150.00
Hydrogen to ammonia research and development	CSIRO	200,000.00
Integrated disease management tools to manage summer crop diseases in the northern region	University of Southern Queensland	33,166.00
Surveys and associated diagnostics of the incidence and severity of diseases of cereals and pulses in the southern region	Department of Jobs, Precincts and Regions	120,244.23
Surveys and associated diagnostics of the incidence and severity of diseases of cereals and pulses in the northern region	Queensland Department of Agriculture and Fisheries	32,203.86
Soilborne diseases interaction in Australian farming systems	Department of Jobs, Precincts and Regions	1,371,557.46
Surveys and associated diagnostics of the incidence and severity of diseases of cereals, pulses and oilseeds in the western region	Department of Primary Industries and Regional Development	131,562.00
Validation and demonstration of decision-making tools for managing blackleg in canola in the western region	Farmanco Management Consultants Pty Ltd	14,900.00
Soilborne pathogens of winter cereals: identification and management strategies	FarmLink Research Limited	142,650.00
Facilitating adoption of integrated weed management strategies for Feathertop Rhodes grass in the northern region	Department of Regional NSW	190,000.00
Facilitating adoption of integrated weed management strategies for Feathertop Rhodes grass in the northern region	Independent Consultants Australia Network P/L (ICAN)	123,213.00
Resistance surveillance for sustainable management of Helicoverpa in grains	Department of Regional NSW	116,385.00
Machinery investment options in the Australian cropping regions	Kondinin Information Services	7,500.00
Development of 'nowcasting' ability for hazardous and non-hazardous atmospheric conditions for agricultural spraying	Cambridge Environmental Research Consultants	5,402.75
Insecticide resistance in the green peach aphid: national surveillance, preparedness and implications for virus management	CESAR Pty. Ltd	500,000.00
Research agreement		775,000.00

INVESTMENT	PARTNER	2020-21 EXPENDITURE
Distribution of ramularia across the Australian grain belt	Department of Primary Industries and Regional Development	90,000.00
Determination of Fipronil residues in soybean after an in-furrow treatment at planting	Eurofins Agrosience Services Pty Ltd	3,899.60
Synchrotron Postdoctoral Fellow no. 1: Soil - root interactions using intact field soil cores	The University of Queensland	245,820.00
Maximising the uptake of phosphorus by crops to optimise profit in central and southern NSW, Victoria and South Australia	Department of Regional NSW	676,069.00
Synchrotron Postdoctoral Fellow no. 2: Soil - nutrient availability mapping under field conditions using intact soil cores	University of South Australia	202,333.00
Synchrotron Postdoctoral Fellow no. 3: Soil - organic matter fractionation using intact soil cores	The University of Queensland	195,044.00
Synchrotron Postdoctoral Fellow no. 4: Plants - Novel foliar fertilisers and nutrition trait diversity of grains	Murdoch University	200,000.00
Determination of clothianidin residues in mungbeans and navy beans following the application of Shield Systemic insecticide	Eurofins Agrosience Services Pty Ltd	4,305.30
Determination of Clethodim residues in Linseed after a single foliar application	Eurofins Agrosience Services Pty Ltd	3,499.60
Sprayer calibration / application workshops to increase spray efficiency and efficacy	Bill Campbell Consulting Pty Ltd	116,340.00
Hands-on precision agriculture training for growers	SPAA - Society of Precision Agriculture Australia	555,000.00
Area Wide Management for cropping systems weeds: investigating the weed management, social and economic opportunity	CSIRO	858,261.00
Research Agreement		60,000.00
Screening of diverse barley germplasm for rapid discovery and utilisation of novel disease resistance in barley novel using R-HapSelect: a haplotype-based toolkit	The University of Queensland	665,000.00
Minimising the impact of major barley foliar pathogens on yield and profit: development of international host differential sets	Department of Jobs, Precincts and Regions	274,000.00
Minimising the impact of major barley foliar pathogens on yield and profit: surveillance and monitoring of pathogen populations	The University of Adelaide	357,000.00
Minimising the impact of major barley foliar pathogens on yield and profit: screening of elite breeder material transitioning to a fee for service model	Queensland Department of Agriculture and Fisheries	175,000.00
Prevention and preparedness for fall armyworm (Spodoptera frugiperda)	CSIRO	272,600.00
Program 3: Towards effective genetic and sustainable management of ascochyta blight of chickpea - identification and characterisation of novel sources of AB resistance in elite cultivars and wild relatives of chickpea	The University of Adelaide	422,181.00
Australian Herbicide Resistance Initiative - Phase 6	University of Western Australia	941,896.00
WeedSmart 2020-2023	University of Western Australia	300,000.00
Developing strategies to mitigate and manage resistance to key herbicides	The University of Adelaide	307,948.00
IDM package for ascochyta blight in chickpeas	CSIRO	225,000.00
Disease management strategies in broadacre grain crops for South Australia	The University of Adelaide	315,017.00
Wildfire impact on disease and pest populations and successional re-establishment in a grain crop fire scar	AgXtra	96,842.00
Pathways to registration: minor use (2019-2022)	AKC Consulting Pty Ltd	344,407.00
Paddock level herbicide resistance management for western growers and advisers	University of Western Australia	220,000.00
Prevention and preparedness for fall armyworm (Spodoptera frugiperda)	CESAR Pty. Ltd	35,461.00
Towards effective genetic and sustainable management of ascochyta blight of chickpea - ascochyta blight pathogen biology, population dynamics and epidemiology	Griffith University	300,000.00
Towards effective genetic and sustainable management of ascochyta blight of chickpea : accurate, effective, cheaper and rapid high-throughput method for qualitative and quantitative evaluation for AB genetic resistance	Department of Jobs, Precincts and Regions	580,000.00
Consultative review of past, current and future chemical and biological control options of Rutherglen Bug	Independent Consultants Australia Network P/L (ICAN)	25,000.00
Towards effective genetic and sustainable management of ascochyta blight of chickpea	International Centre for Agriculture Research in Dry Areas (ICARDA)	587,657.00
Identification of novel sources of resistance to Septoria Leaf Blotch and understanding of evolution and virulence of the pathogen	The University of Adelaide	250,000.00
Strategy development for Key Investment Target 3.7	B M White	-2,884.28
Consultative review determine potential herbicides for managing WA blue lupin and other broadleaf weeds in narrow leaf and albus lupin crops	Independent Consultants Australia Network P/L (ICAN)	34,800.00
Determining the incidence of herbicide resistance in Australian grain cropping	Charles Sturt University	710,678.00
Underpinning agricultural productivity and biosecurity by weed biological control(RR&D4P)	AgriFutures Australia (RIRDC)	180,000.00
Effective use of diquat for late season weed set control of annual ryegrass (Lolium rigidum) in barley	Synergy Consulting	75,800.00
Weed species for potential research investment	Department of Jobs, Precincts and Regions	97,412.00
Facilitate a review of GRDC nitrogen investment strategy and methodology for future procurements	CSIRO	3,600.00
Technical review of operating standards for autonomous systems in Australian broad-acre cropping systems	University of Southern Queensland	45,000.00
Crown rot resistance and tolerance evaluation for genetic improvement	Australian Grain Technologies Pty Ltd	105,522.00
ARC Research Hub for Sustainable Crop Protection	The University of Queensland	150,000.00
Coordinator for the rust technical review 2020	F H Winter Pty Ltd	34,800.00
Surveys and associated diagnostics of the incidence and severity of diseases of cereals, and pulses in South Australia	The University of Adelaide	119,787.00
Future options for the control of RLEM in Australian grain crops	CESAR Pty. Ltd	593,875.00
Let's Talk Glyphosate Resistant Ryegrass' workshop	FarmLink Research Limited	9,500.00
Improving weed control in pulses: delivery of herbicide tolerance traits	The University of Adelaide	399,657.00
GRDC rust investments technical review	Agricultural & Plant Science Consultants - Chris Tapsell	13,420.00
Review panel chair for the rust technical review 2020	Robert Waugh	45,600.00
Reviewer for rust technical review 2020 (Pathologist)	John Innes Enterprises Ltd	21,186.01
GRDC rust technical review consultancy	ANU Enterprise Pty Ltd	46,116.00
Improved management of Rutherglen bug in the northern region	CSIRO	50,000.00
Review of pulse herbicide tolerance traits	Independent Consultants Australia Network P/L (ICAN)	18,000.00

INVESTMENT	PARTNER	2020-21 EXPENDITURE
Epidemiology of Septoria Tritici Blotch in the low and medium rainfall zones of the southern region to inform IDM strategies	Department of Jobs, Precincts and Regions	50,000.00
Upgrading APSIM nitrogen cycling and loss routines with data from the National Australian Nitrous Oxide Research Program (NANORP)	Queensland University of Technology	50,000.00
Sclerotinia management for narrow leaf lupin crops in Western Australian farming systems	Department of Primary Industries and Regional Development	50,000.00
Disease surveillance and related diagnostics for the Australian grains industry northern region	Queensland Department of Agriculture and Fisheries	75,000.00
Disease surveillance and related diagnostics for the Australian grains industry Victoria	Department of Jobs, Precincts and Regions	75,000.00
Review of long-term investment models	ST Strategic Services Pty Ltd	36,000.00
Management of spot form of net blotch in the low rainfall zones of Western Australia	Department of Primary Industries and Regional Development	100,000.00
Disease surveillance and related diagnostics for the Australian grains industry western region	Department of Primary Industries and Regional Development	75,000.00
Disease surveillance and related diagnostics for the Australian grains industry South Australia	The University of Adelaide	50,000.00
Determination of imazamox and imazapyr residues in imidazolinone tolerant field peas following the application of Nufarm Intercept herbicide	Nufarm Limited	33,630.00
Determination of crop safety to trifluralin following its application, with incorporation by sowing (IBS) to oaten hay and oat grain varieties	AgriFutures Australia (RIRDC)	18,840.00
Determining the economic impact of native budworm (Helicoverpa punctigera) in cereal crops in the western region	Department of Primary Industries and Regional Development	70,000.00
Expanding grain production in coastal NSW through improved weed management	Independent Consultants Australia Network P/L (ICAN)	20,000.00
WeedOmics - next generation molecular diagnostic of herbicide resistance	The University of Melbourne	85,000.00
	Total	61,870,773.68
OBJECTIVE 4: REDUCE POST-FARM-GATE COSTS		
Improving on-farm grain storage management practices through technical training	Primary Business	90,000.00
Strategic oversight and coordination of grain protection chemicals	McMullen Consulting PTY LTD	116,799.00
Coordinate and facilitate the management of market access issues	GIMAF Limited	150,000.00
Joint-RDC Community Trust Program	AgriFutures Australia (RIRDC)	35,000.00
Australian participation in the European Union Product Environmental Footprint Technical Advisory Board	Australian Wool Innovation	11,500.00
Grains sector GHG baseline and mitigation	CSIRO	100,000.00
On-farm grain storage: development and extension to support best practice management	Primary Business	677,732.00
Agricultural Innovation Australia Ltd	Agricultural Innovation Australia	500,000.00
CRSPI - membership 2021	Australian Pork Limited	10,000.00
	Total	1,691,031.00
OBJECTIVE 5: MANAGE RISK TO MAXIMISE PROFIT AND MINIMISE LOSSES		
Managing Climate Variability: Phase V	Meat & Livestock Australia Limited	250,000.00
Using seasonal forecast information and tools to manage risk and increase profitability in the southern region - Agriculture Victoria expands the break	Department of Jobs, Precincts and Regions	160,000.00
Forewarned is forearmed: managing the impacts of extreme climate events (RR&D4P)	Meat & Livestock Australia Limited	50,000.00
Farm business management workshops for the western region	Rural Edge Australia	8,750.00
GRDC Farm Business Update series	ORM Pty Ltd	765,486.88
AgScore: an agricultural approach to assessing the skill of seasonal climate forecasting systems and their value for aiding on-farm decision making	CSIRO	156,275.00
Rural Safety and Health Alliance	AgriFutures Australia (RIRDC)	20,000.00
Economic analysis of KIT outcomes	Tatjana Karov	19,636.38
Increasing grower and advisor capacity and confidence in seasonal forecasting: southern region and SNSW	Department of Jobs, Precincts and Regions	36,150.00
Economic analysis of KIT outcomes	Tatjana Karov	11,454.80
	Total	1,477,753.06
FRAMEWORK: BIOSECURITY		
PulseBio 4: Biosecure pulse seeds	Department of Jobs, Precincts and Regions	136,577.00
Boosting diagnostics for plant production industries	Biosecurity Tasmania, Department of Primary Industries, Parks Water and Environment	114,239.00
Development of identification resources and enhancing diagnostics capacity for high priority plant pests	CESAR Pty. Ltd	111,020.00
Nematode diagnostics across industries through capability succession, enhancement of collections and protocol development	CSIRO	164,000.00
Nanopore diagnostics for plant pathology	Department of Primary Industries and Regional Development	111,600.00
Boosting diagnostics for plant production industries	Northern Territory Department of Primary Industry and Resources	191,814.00
Determining the geographical origin of priority insect pest detections: anthropogenic stable isotope signatures to improve resolution of high risk environments	Lincoln University	38,223.00
Boosting diagnostic capacity for plant production industries: using Xanthomonas as a model organism for increasing bacterial capacity	Department of Regional NSW	155,882.00
National diagnosticians biosecurity blitz workshop	Plant Health Australia	42,996.00
Boosting diagnostic capacity for plant production industries: using Xanthomonas as a model genus for increasing bacterial diagnostic capacity	The New Zealand Institute for Plant & Food Research Limited	170,000.00
Diagnostic development and surveillance for biosecurity threats to Australian grains, horticulture, cotton and forestry industries	Queensland Department of Agriculture and Fisheries	276,970.00
Building diagnostic and high throughput surveillance capabilities for high priority pests: developing pre- and post-entry high throughput surveillance and supporting insect and nematode diagnostic capabilities for national/ high priority plant pests	SA Research and Development Institute	412,896.00
Advancing techniques for diagnosis of yellow canopy syndrome	Sugar Research Australia	114,000.00
Boosting diagnostics for plant production industries	AusVeg Limited	96,500.00
Boosting diagnostics for plant production industries	Department of Jobs, Precincts and Regions	726,769.00
Plant Biosecurity Research Initiative collaboration and funding agreement Phase II	Horticulture Innovation Australia Limited	39,000.00

INVESTMENT	PARTNER	2020-21 EXPENDITURE
	Total	2,902,486.00
FRAMEWORK: CAPACITY AND ABILITY		
Building research capacity in the northern grains region - NSW	Department of Regional NSW	5,000.00
Australian Rural Leadership Program	Australian Rural Leadership Foundation Ltd	50,000.00
Grains Industry Research Scholarship: application of precision ag tools to a wheat breeding program	The University of Adelaide	2,476.00
Grains Industry Research Scholarship: frost tolerance in wheat	University of Western Australia	13,620.00
Improving sustainable productivity and profitability of Mallee farming systems with a focus on soil improvements	The University of Adelaide	-88,478.25
Australian Pastures Genebank	SA Research and Development Institute	186,000.00
The 10 Genome Wheat Sequencing Consortium	The University of Adelaide	125,000.00
Longerenong Agricultural College Victoria	Longerenong College Victoria	24,000.00
Cunderdin College Agricultural Training Awards	Western Australian College of Agriculture - Cunderdin	12,000.00
Total College Agricultural Training Awards	Department of Regional NSW	12,000.00
Grains Industry Research Scholarship: protecting the Australian pulse industries from Diamondback moth infestations	The University of Adelaide	11,770.00
Grains Industry Research Scholarship: evolution and management of Group J resistance in annual ryegrass (<i>Lolium rigidum</i>)	The University of Adelaide	17,773.00
Grains Industry Research Scholarship: extent, distribution and management of herbicide resistant common sowthistle and prickly lettuce in lentils	The University of Adelaide	13,463.00
Grains Industry Research Scholarship: adaptation of fast winter wheat genotypes to the Mediterranean semi-arid cropping regions of southern Australia	La Trobe University	23,541.00
Grains Industry Research Scholarship: understanding invasiveness of wild oat in wheat production under drought and heat stress in conservation agriculture	The University of Queensland	30,312.00
Grains Industry Research Scholarship: common rust of maize	University of Southern Queensland	20,599.00
Grains Industry Research Scholarship: optimising crop predicted and produced yield through an intuitive and cost effective decision support tool	University of Sydney	17,727.00
Australian Grains Genebank 2017-2022	Department of Jobs, Precincts and Regions	2,310,874.50
Post-doctoral Fellowship: managing soil constraints with on-row seeding systems for the Low Rainfall Zone	CSIRO	138,415.00
Innovation Generation	GrainGrowers Limited	25,000.00
Australian Universities Crops Competition 2018, 2019 & 2020	GrainGrowers Limited	-11,250.00
Post-doctoral Fellowship - Crop lower limit: root water extraction responses to soil properties as key to variability in PAWC	CSIRO	32,958.00
Crawford Fund Annual Development Conference 2018, 2019, 2020	The Crawford Fund Ltd	10,000.00
Post-Doctoral Fellowship: understanding mechanisms of subsoil amelioration	La Trobe University	50,065.00
Post-Doctoral Fellowship: improving root growth in dispersive soils	The University of Adelaide	77,281.00
Post-Doctoral Fellowship: more profit from lentils through enhanced tolerance of waterlogging and improved canopy management	The University of Adelaide	141,497.00
2019 Australian Summer Grains Conference	Australian Summer Grains Conference	-12,500.00
ABARES Outlook 2019, 2020 and 2021 conference	Department of Agriculture, Water and the Environment	8,181.82
SANTFA conference	South Australian No Till Farmers Association Inc	8,000.00
DAFF Hermitage Research Facility Schools Plant Science Competition	Queensland Department of Agriculture and Fisheries	5,000.00
Grains Industry Research Scholarship: hyperspectral remote sensing of wheat crops for rapid assessment of effective nutrient status and improved crop growth model performance	The University of Melbourne	35,697.00
Grains Industry Research Scholarship: determining the genetic control of grain size and heat stress tolerance during flowering in barley	Murdoch University	23,798.00
Grains Industry Research Scholarship: extracellular vesicles from <i>Zymoseptoria tritici</i> : investigating the non-classical secretion of pathogenicity factors by a fungal wheat pathogen	Australian National University	35,697.00
Post Doctoral Fellowship: maximising crops and minimising weeds with smart phase farming	University of Western Australia	163,000.00
Grains Industry Research Scholarship: identification and characterisation of barley (1,3;1,4)- β -Glucan mutants	The University of Adelaide	10,000.00
Grains Industry Research Scholarship: development of herbicide cocktails with a novel mode of action for circumventing resistance mechanisms	La Trobe University	35,697.00
Grains Industry Research Scholarship: the bioactivity and functionality of the molecular and microbial components of snail mucus	University of the Sunshine Coast	35,697.00
Grains Industry Research Scholarship: valorisation of sorghum biomass into sustainable, high-performance nanomaterials	The University of Queensland	35,697.00
Grains Industry Research Scholarship: the application of FTIR to predict dough making properties of wheat flour	University of Western Australia	35,697.00
WAFarmers Annual Conference	Western Australian Farmers Federation (WA Farmers)	10,000.00
SEPWA Ladies Day	SEPWA	3,750.00
AgFrontier Regional AgTech Incubator (incorporating AgTeCH19 Emerald & AgTeCH20 Mungindi events)	Central Highlands Development Corporation Ltd	2,500.00
Red Meat Updates	Macquarie Franklin Pty Ltd	2,500.00
Post-Doctoral Fellowship: unravelling the relationships between soil mixing uniformity by spading and crop response	University of South Australia	41,254.00
Post-doctoral Fellowship: alternative phenotyping for reproductive stage frost tolerance using metabolite markers and identification of frost tolerance QTL in wheat	CSIRO	118,506.00
Post-doctoral Fellowship: a model for predicting chickpea ascochyta blight risk	University of Southern Queensland	209,632.00
Post-doctoral Fellowship: understanding gene flow in mouse populations to improve management outcomes	CSIRO	83,442.00
Post-Doctoral Fellowship: exploiting the potential of a novel fungal biofertiliser	University of Western Australia	183,661.00
Post-doctoral Fellowship: designing roots to enhance durum wheat yield	The University of Queensland	120,695.00
GRDC nominee Director	Kim Halbert	24,500.00
Post-Doctoral Fellowship: photosynthetic acclimation to high temperature in wheat	University of Sydney	18,079.00

INVESTMENT	PARTNER	2020-21 EXPENDITURE
Post-Doctoral Fellowship: minimising the impact of high temperature at flowering on spikelet fertility	Murdoch University	20,167.00
Post-Doctoral Fellowship: predicting weed seed dynamics in farming systems	Department of Regional NSW	188,093.00
Post-Doctoral Fellowship: high-throughput quantitative analysis of flowering dynamics and canopy structure in canola germplasm using image analysis and deep learning methods	CSIRO	195,448.00
Post-Doctoral Fellowship: understanding causes of physical constraints in sandy soils and implications for targeted deep tillage	CSIRO	137,498.00
INSPIRE Summit 2020	Rural Edge Australia	2,500.00
Boosting the capability and capacity of graduate agronomists	Seedbed Media Pty Ltd	75,901.00
Grains Industry Research Scholarship: improving variety prediction using environment information	The University of Queensland	36,069.00
Grains Industry Research Scholarship: chemical cues used by natural enemies of the green peach aphid to find their prey in canola fields	Murdoch University	36,069.00
Grains Industry Research Scholarship: molecular and phenotypic characterisation of synthetic auxin herbicide tolerant pulse germplasm	The University of Adelaide	36,069.00
Grains Industry Research Scholarship: assessing a sterol pathway component as a novel target for herbicides	University of Western Australia	36,069.00
Grains Industry Research Scholarship: the interaction between arbuscular mycorrhizal fungi, rhizobia and root-lesion nematodes in mungbean	University of Southern Queensland	5,684.00
Population structure and virulence of barley Spot Form of Net Blotch isolates in Western Australia	Curtin University	36,870.00
Grains Industry Research Scholarship: developing an ecotoxicologically based index for fertiliser toxicity	The University of Adelaide	36,069.00
Grains Industry Research Scholarship: Risking the Future -how Australian grain growers manage risk today and into the future	The University of Melbourne	6,145.00
Grains Industry Research Scholarship: determining the spatial distribution of P. quasitereoides/P. curvicauda in the WA wheatbelt, and understanding how these nematodes find host roots as means to developing new methods of control	Murdoch University	36,870.00
Grains Industry Research Scholarship: identifying novel sources of disease resistance genes in wild Brassicaceae for canola crop improvement	University of Western Australia	36,069.00
External independant review of the Australian Grains Genebank	M C Mackay	6,000.00
Barley Tech Symposium 2018-2022	Meeting Masters	25,000.00
Horizon Scholarship Program	AgriFutures Australia (RIRDC)	90,000.00
Accelerator Program	Sparklabs Cultiv8 Pty Ltd	100,000.00
Accelerator Program	Farmers2Founders	90,000.00
GRDC Support for International Year of Plant Health 2019-20	Horticulture Innovation Australia Limited	7,500.00
GRDC Recognising and Rewarding Excellence award	CSIRO	10,000.00
Development of interactive online modules on grain and oilseed growing for years 5 to 8	Primary Industries Education Foundation Australia	40,000.00
Developing infrastructure to make the Tosari farms research ready	Queensland Cropping Research Ltd	750,000.00
Growers and Innovators - Year 2	Farmers2Founders	216,000.00
New insight and tools to increase yield potential and reliability in mungbean	The University of Queensland	15,724.00
Role of transposable elements in the blackleg fungus in its ability to overcome canola cultivar resistance and to develop fungicide resistance	The University of Melbourne	13,104.00
Characterising the mechanism of the CAPE1 induced immunity	Australian National University	13,104.00
Cross-compatibility and genetic stability of rhizobia to maximise nitrogen fixation in new and existing inoculants	Murdoch University	10,482.00
A golden future for enhancing yield potential in canola	Australian National University	15,724.00
Grains Industry Research Scholarship: 100-day wheats for adapting to a changing climate	Charles Sturt University	2,620.00
Science and Innovation Awards for Young People in Agriculture	Department of Agriculture, Water and the Environment	22,727.27
2021 Nuffield Australia Farming Scholarship Program	Nuffield Australia Farming Scholars	40,000.00
CSIRO Agriculture & Food Vacation Scholarship Program	CSIRO	47,250.00
International regulation for SDN-1 genome edited crops: risk assessment and management	PTM Solutions Australia Pty Ltd	25,000.00
Infrastructure at the Plant Breeding Institute at Narrabri	NSW Wheat Research Foundation	1,000,000.00
Diversity in Agriculture Leadership Program 2021	National Farmers' Federation	15,000.00
2021 Australian Agronomy Conference	Australian Agronomy Conference	10,000.00
2021 NSW Farmers Association Conference	NSW Farmers' Association	6,000.00
	Total	7,982,649.34
FRAMEWORK: DATA MANAGEMENT AND ANALYTICS		
Statistics for the Australian Grains Industry (SAGI): Western node	Curtin University	776,170.00
Statistics for the Australian Grains Industry (SAGI): Northern node	Queensland Department of Agriculture and Fisheries	772,602.00
Bioinformatics and biometrics for the Australian grains industry	University of Wollongong	684,000.00
Statistics for the Australian Grains Industry (SAGI): Southern node	The University of Adelaide	459,629.50
SAGI South Masters Scholarship Agreement	The University of Adelaide	5,000.00
Improved genetic gain through participation in the barley pan-genome consortium	Murdoch University	50,000.00
National Phenology Initiative	La Trobe University	719,119.50
Modification of the CSIRO ADOPT tool	CSIRO	30,000.00
Identifying a machine learning approach to weed recognition in Australian grain production systems	University of Sydney	51,650.00
Machine learning to extract maximum value from soil and crop variability	The University of Adelaide	466,770.00
Applying machine learning to improve genetic gain delivered from genomic selection in plant breeding	Australian Grain Technologies Pty Ltd	246,706.00
Using machine learning to increase genetic gain in canola blackleg resistance breeding	University of Western Australia	154,762.00
Machine learning applied to high-throughput feature extraction from imagery to map spatial variability	The University of Queensland	299,030.00
Using machine learning to develop new methods for genetic gain in crops challenged by fungal diseases	Curtin University	85,408.00
Machine learning to map soil constraint variability and predict crop yield	University of Sydney	78,050.60
Machine Learning Technical Consultation Group participant	The University of Queensland	43,585.00

INVESTMENT	PARTNER	2020-21 EXPENDITURE
Machine Learning Technical Consultation Group participant	University of Saskatchewan	35,165.00
Deep Learning for early detection and classification of crop disease and stress	University of Western Australia	172,411.00
AgAsk: a machine learning generated question-answering conversational agent for data-driven growing decisions	The University of Queensland	87,624.79
INVITA - A technology and analytics platform for improving variety selection	The University of Queensland	1,189,000.00
Common seed bulk-up: 2020-2024	Kalyx Australia Pty Ltd	369,295.85
Common seed bulk-up: 2020-2024	Department of Regional NSW	122,882.55
Improved data services to enable optimal investment decisions	Kynetec Australia Pty Ltd	139,625.00
Online Farm Trials database and website	Federation University of Australia	100,000.00
GRDC grains R,D&E statistics and analytics review and landscape assessment	ANU Enterprise Pty Ltd	27,025.00
GRDC grains R,D&E statistics and analytics review and landscape assessment	Robert Merrill	15,439.59
GRDC grains R,D&E statistics and analytics review and landscape assessment	F H Winter Pty Ltd	-4,021.00
GRDC grains R,D&E statistics and analytics review and landscape assessment	The University of Melbourne	26,250.00
Australian Agricultural and Grazing Industries Survey (AAGIS) and Grains reports: 2020-21	Department of Agriculture, Water and the Environment	510,140.00
Grains industry data, data integration and mapping services 2020-21	Kynetec Australia Pty Ltd	118,800.00
Profarmer price and forecast data subscription	Australian Crop Forecasters	19,750.00
Grain receivals data services	Kynetec Australia Pty Ltd	87,550.00
Australian Agricultural and Grazing Industries Survey (AAGIS) and Grains reports: 2020-21 and 2022-23	Department of Agriculture, Water and the Environment	127,536.00
	Total	8,066,956.38
FRAMEWORK: GROWER COMMUNICATIONS AND EXTENSION		
Soil Quality iBook	University of Western Australia	4,000.00
GRDC branded publications	Coretext	199,740.00
GroundCover editorial content	Coretext	1,115,400.65
National, regional and local video and podcasts	Anvil Media Pty Ltd	327,716.82
GroundCover suite	Rural Press Pty Limited	353,116.12
GRDC Communities website support	Kobe Creations	-568.40
GRDC Research Update Series: southern region	ORM Pty Ltd	707,092.00
GRDC Research Update Series: northern region	Independent Consultants Australia Network P/L (ICAN)	805,337.44
Communication support services for the southern region	AgCommunicators Pty Ltd	-8,450.00
GRDC Grains Research Updates: western region	Grain Industry Association of Western Australia	549,295.00
Storage and distribution of publications	CanPrint Communications Pty Ltd	37,947.27
Rural Focus interviews	Southern Cross Austereo Pty Ltd	10,400.00
GRDC website development, support and hosting	Squiz Australia Pty Ltd	84,700.00
GRDC image library	Coretext	21,500.00
Communication support: northern region	Jeffrey Rural Communications	29,999.48
Communication support: southern & western regions	AgCommunicators Pty Ltd	48,000.00
GRDC Grower Network: coordination and facilitation services for southern NSW	Rural Management Strategies Pty Limited	181,735.00
GRDC Grower Network: coordination and facilitation services for Central NSW	Grain Orana Alliance Inc	196,714.65
GRDC Grower Network: coordination and facilitation services for investment idea capture and grower engagement program – western region	KJ Heenan and JR Hill	641,006.86
GRDC Grower Network: coordination and facilitation services for the southern region	AgCommunicators Pty Ltd	374,545.80
GRDC Grower Network: coordination and facilitation services for northern NSW & southern Qld	Northern Grower Alliance Incorporated	303,975.00
2020 Grower Survey	Down To Earth Research	36,983.00
Research Partners Survey 2020	Down To Earth Research	17,000.00
Corporate affairs	Porter Novelli Pty Ltd	94,999.59
GRDC videos and podcasts	Anvil Media Pty Ltd	118,513.83
GroundCover suite - editorial content and hardcover publications	Coretext	418,450.73
Grain and Grazing management of canola and wheat production systems: technical manual	CSIRO	70,000.00
2021 GRDC Grower Survey	Down To Earth Research	101,947.00
Investment and impact strategy	Reconstruct Consulting	11,250.00
	Total	6,852,347.84
Other RD&E costs		
IP management costs		108,868.72
RD&E support and management		-1,287,816.05
RD&E support and management: panel expenses		964,330.32
	Total	-214,617.01
	Grand total	168,902,545.53