

ANNUAL REPORT 2019/2020



CRCNA
DEVELOPING NORTHERN AUSTRALIA

The CRCNA acknowledges the support of its government partners.



The CRCNA acknowledges the Traditional Custodians of the land and water on which our staff and researchers live and work and pay our respects to their elders past, present and emerging.

The CRCNA also acknowledges and thanks the work of our project participants and researchers who have supported the delivery of this report through their research activities and materials.

Front cover images include those provided by Charles Darwin University, Timber Queensland, Advance Cairns, NT Farmers Association and the Northern Territory Department of Industry, Trade and Tourism.

DISCLAIMER

This report summarises the research activities and achievements of the Cooperative Research Centre for Developing Northern Australia (CRCNA), up until and including 30 June 2020.

It is possible figures, and project participants may have changed from the time this document was written and published. Current information about the CRCNA and our projects is available at www.crcna.com.au.

STRATEGIC PARTNERSHIPS



Abbreviations and Acronyms

Note: All project participants and their relevant abbreviations are listed in the supplementary sections of this report.

CEO	Chief Executive Officer
CRCNA	Cooperative Research Centre for Developing Northern Australia
CRDC	Cotton Research and Development Corporation
CSIRO	Commonwealth Science and Industrial Research Organisation
COVID-19	2019 novel coronavirus
DAF	Department of Agriculture and Fisheries, Queensland
EOI	Expression of Interest
FIAL	Food Innovation Australia
GDP	Gross Domestic Product
GBRMPA	Great Barrier Reef Marine Park Authority
GRDC	Grains Research and Development Corporation
FAW	Fall armyworm
FNQ	Far North Queensland
NT	Northern Territory
NT DITT	Northern Territory Government Department of Industry, Tourism and Trade (previously Northern Territory Government Department of Primary Industry and Resources NTDPIR)
PC	Protected cropping
QLD	Queensland
R&D	Research and Development
RD&E	Research, development and extension
SMEs	Small to medium sized enterprises
SWOT	Strengths, weaknesses, opportunities, threats
TRO	Tropical Rock Oyster
WA DPIRD	Western Australian Government Department of Primary Industry and Regional Development
FY	Financial year

TABLE OF CONTENTS

Minister's foreword – Hon Keith Pitt MP	5
Chair's report – Sheriden Morris	6
About the CRCNA	10
Research investment priorities	13
CEO's report – Jed Matz	14
Research focus areas for Northern Australia	18
CRCNA Research Programs	19
Research Program 1	20
Northern Australia forestry and forest product situational analysis	22
Research Program 2	24
Northern Australia Tropical Rock Oyster R&D project	26
Broadacre cropping in Northern Australia	28
Research Program 3	32
Protected cropping systems	34
Research Program 4	35
Business on Country: Land use diversification on Indigenous Estate	36
Research Program 5	38
Establishing eye screening services	39
Research Program 6	40
Research Program 7	41
De-risking and facilitating quality agricultural development	42
Research pipeline	44
Governance	45
CRCNA Board	46
Finance and Audit committee	49
Advisory committees	52
All project participants	57
Embedded PhD students	63
Associate students	63
Scholarship holders	63
Publications	64

MINISTER'S FOREWORD

HON KEITH PITT MP

MINISTER FOR RESOURCES, WATER AND
NORTHERN AUSTRALIA



I am pleased to provide the foreword to the annual report of the Cooperative Research Centre for Developing Northern Australia.

The north has untapped promise, abundant resources and talented people. It's Australia's closest connection point with some of our key international markets and a high-value provider for domestic markets. The CRCNA provides valuable information and data gathered from sectors and stakeholders across the region, that helps shape the ongoing development of Northern Australia.

For example, the CRCNA has co-invested more than \$2.4 million with

the Grains Research and Development Corporation (GRDC) in four broadacre cropping projects, three of which are in Far North Queensland, the fourth in partnership with Cotton Research and Development Corporation (CRDC) is being undertaken in the Northern Territory.

Rural and regional areas in Northern Australia have not escaped the economic impact of COVID-19, especially in key sectors like tourism and agricultural industries. The upcoming release of the CRCNA's State of the North report will provide critical input into the development of the Northern Australia agenda for the next five

years. The Australian Government is committed to generating new jobs and opportunities, making it easier to do business and continue to de-risk the investment environment for new projects.

I would like to thank and acknowledge the work by the CRCNA over the past year. I look forward to the ongoing contributions of the CRCNA as it continues to play an important part in developing Northern Australia, providing new opportunities for the people who call the north home.



CHAIR'S REPORT

SHERIDEN MORRIS

The Cooperative Research Centre for Developing Northern Australia has successfully completed its third full year of operations and what a challenging and rewarding year 2019/2020 has proven.

This year has seen the CRCNA take significant steps to deliver research outcomes across Northern Australia in the areas of agriculture, health service delivery and Traditional Owner-led development and to firmly establish ourselves as an important contributor to the developing Northern Australia agenda.

In addition to completing twelve research collaborations I consider the finalisation and publication of seven sector situational analysis reports this past year, as one of our most significant achievements to date. Each of these reports examined the current state-of-play of the sector and have delivered the strong evidence base we need to affect real change across Northern Australia. With knowledge comes the ability to identify, prioritise and de-risk future research, development and investment opportunities.

For the first time we have industry-led outcomes and recommendations providing a pathway for these sectors to resolve many of the long standing impediments hampering development and sector growth.

At the time of writing collaborations with the Queensland, Northern Territory and Western Australian Governments to de-risk and facilitate quality agricultural development were nearing completion. These projects will deliver the data and evidence needed to challenge the status quo and provide meaningful, realistic and sustainable solutions to be actioned through negotiation and ongoing collaboration between the jurisdictions, industry and the CRCNA.

Organisationally we have achieved much this year, despite the COVID-19 pandemic unravelling the first half of 2020. Our staff and many of our researchers have been able to continue working from home and delivering research milestones, despite the restrictions.

Early 2020, our Board welcomed Ricky Archer, following his appointment as a Director at an Extraordinary General Meeting in February 2020. Ricky's appointment was to replace the late Gigari George, who resigned from the Board in 2019 due to illness. Unfortunately, Gigari passed away in October 2020. Gigari, a proud Wulgurukaba Saltwater woman, was one of the CRCNA's inaugural Directors of the Board and had a long and deep engagement with the developing Northern Australia agenda. She will be remembered and honoured for her strength, resilience and passion for Northern Australia, her People and her Country.

As part of our contribution to the ongoing refresh of the White Paper

on Developing Northern Australia and the work being done by the Northern Australian Taskforce the CRCNA delivered an interim version of our first State of the North report to the Taskforce in May 2020. I am excited to launch the State of the North report at the Developing Northern Australia Conference in Rockhampton in November 2020. This report clearly articulates and quantifies the Northern Australian opportunity and will inform our future research investment strategies and support the de-risking of investment across the region.

With Governments and businesses starting to discuss what a post-pandemic recovery looks like I believe any economic recovery must consider the opportunities that exist in Australia's north. The CRCNA has delivered a coherent, science based, independent library of evidence with which to progress development in Northern Australia. We will now focus our efforts on delivering more research which assists this development to occur.

In conclusion, 2019/20 has been a pivotal year for the CRCNA. I'd like to thank my Board, CEO Jed Matz, staff and research participants for their work and dedication. Thanks too, to the Office of Northern Australia and the Department of Industry, Science, Energy and Resources for their ongoing support.

Finally, I thank each of the jurisdictions for their ongoing support of the CRCNA and for their contribution to our de-risking work.

ABOUT THE CRCNA

OUR PURPOSE

The CRCNA exists to deliver industry-led research and development collaborations which de-risk Northern Australian development and attract quality investment to improve the competitiveness, productivity and sustainability of the north's economy, and the wellbeing of its communities.

WHERE WE WORK

Northern Australia includes all the Northern Territory, and those parts of Queensland and Western Australia above and directly below or intersecting the Tropic of Capricorn. It also includes Gladstone, Carnarvon, Exmouth and the Local Government Areas of Meekatharra and Wiluna in Western Australia.

Research activities can be located outside of this area if the impact of the research falls within the Northern Australia jurisdiction. The CRCNA's head office is in Townsville, with regional offices in Broome and Darwin.

OUR OBJECTIVES



INCREASE GDP



CREATE EMPLOYMENT OPPORTUNITIES AND GROW THE NORTH'S SKILLED WORKFORCE



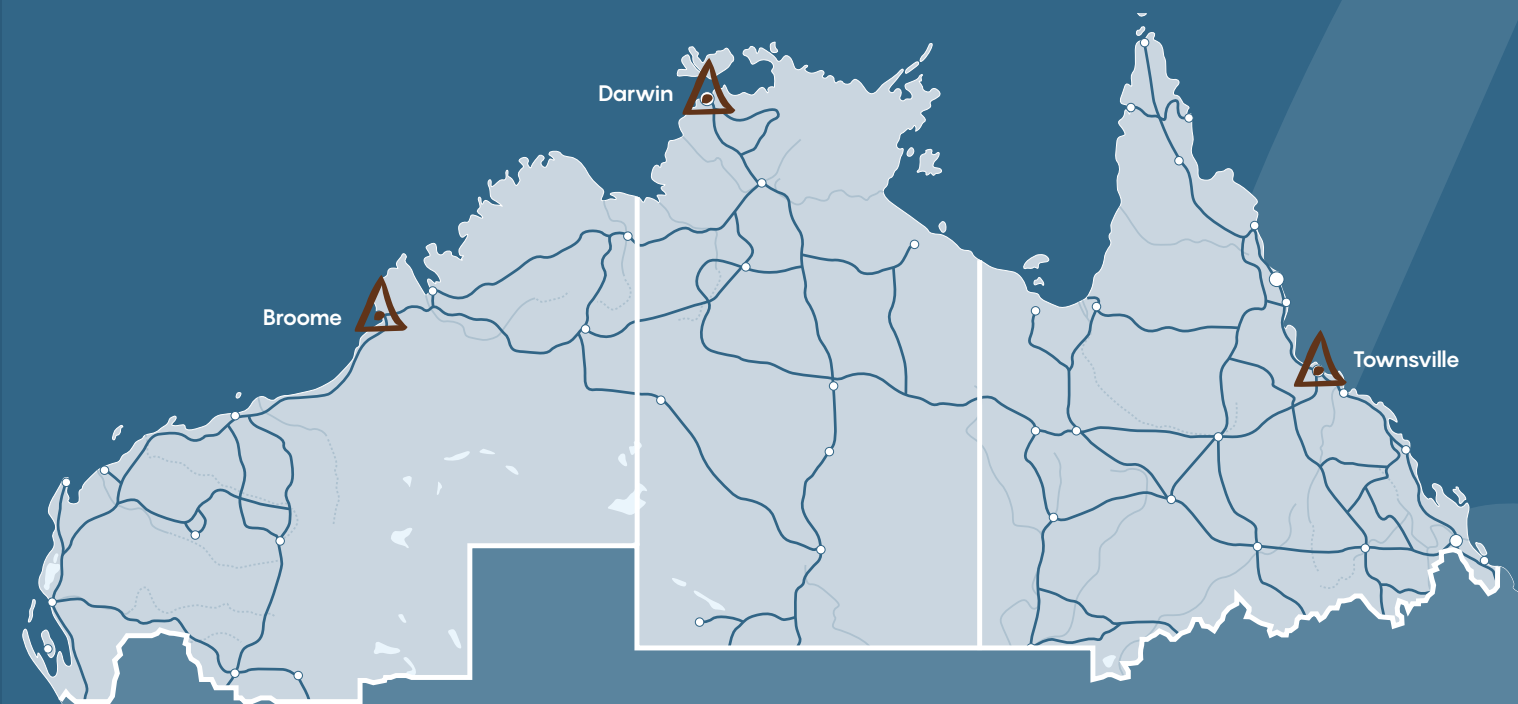
ATTRACT QUALITY LONG-TERM INVESTMENT

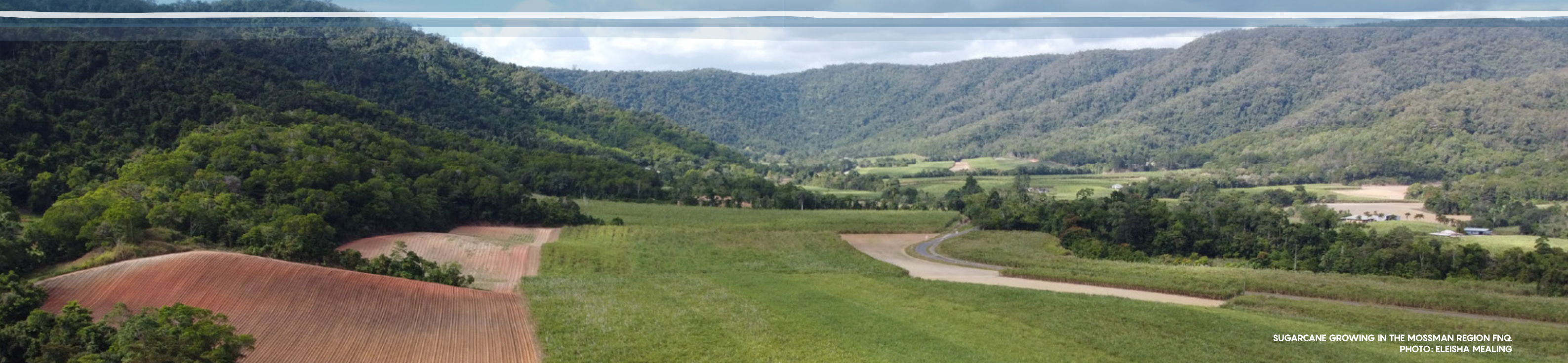


IMPROVE SUPPLY CHAINS



SUPPORT HAPPY, HEALTHY, SUSTAINABLE AND PROSPEROUS COMMUNITIES





SUGARCANE GROWING IN THE MOSSMAN REGION FNQ.
PHOTO: ELEISHA MEALING

PATHWAY TO DEVELOPING NORTHERN AUSTRALIA

Our research programs will deliver against our strategic objectives by providing a pathway to develop Northern Australia by:

1. IDENTIFYING THE CHALLENGES AND THE OPPORTUNITIES

- i. **Deliver a coordinated approach to sector development** to support strategic information and knowledge-building which helps frame and understand the key challenges and opportunities facing the north's key agricultural sectors, health service sectors and the infrastructure and regional development which support these sectors.
- ii. **Deliver research, development, and extension solutions with impact by** leveraging grass-roots research, development and extension efforts, capacity and knowledge of Northern Australia to ensure solutions are implemented in a meaningful way.

2. PRIORITISING THE BEST OPPORTUNITIES, AREAS FOR DEVELOPMENT AND HIGH-IMPACT SOLUTIONS

- i. **Clearly articulated agricultural development priorities which identify where** sustainable agricultural development is acceptable, **who** will benefit and **what** type of development meets community aspirations, including those of our nation's Traditional Owners.
- ii. **Inform appropriate supply chain development and infrastructure planning across Northern Australia** to deliver an evidence base which helps prioritise supply chain and infrastructure investment to provide timely access to high-value international and domestic markets.
- iii. **Build the strategic research capacity and develop the workforce skills of Northern Australians** in the fields of agriculture, aquaculture, food, health service delivery and Traditional Owner-led business development (in agriculture, aquaculture, food and health service/ models of delivery).

3. DE-RISKING THE NORTHERN AUSTRALIAN INVESTMENT LANDSCAPE TO FACILITATE INVESTMENT TO DELIVER THE IDENTIFIED PRIORITISED OPPORTUNITIES

- i. **Broker strategic discussions with relevant decision-makers and stakeholders** and guide a coordinated approach which informs development planning and investment decision making across jurisdictions.

The CRCNA's research programs will maximise our investment and research impact by:

- Investing in grassroots industry-led R&D collaborations through open and targeted funding calls, which resolve challenges, trial new solutions and inform further R&D investment.
- Identifying opportunities for strategic, cross sectoral R&D investment to frame the challenges and solutions in a pan-northern context.
- Delivering strategic policy solutions to support the de-risking of the Northern Australian investment landscape.

RESEARCH INVESTMENT PRIORITIES

01

Developing strategic policy solutions — de-risking the investment landscape of Northern Australia.

02

Sector and regional supply and value chain development — clarifying the problem, framing the issues and solutions.

03

Industry-led research collaborations — understanding the issues affecting productivity and defining the challenges and barriers facing production/delivery systems.

The CRCNA's current investment funding structure. Over time, the CRCNA expects to increase its investment in targeted R&D projects which support broader policy solutions.



CEO'S REPORT

JED MATZ

The CRCNA's third year of operations has been one of continued progress, with twelve projects completed and another 17 new collaborations starting their research activities.

At the end of the 19/20 financial year, the CRCNA had invested \$11 million in industry-led research collaborations with more than 133 participants committing an additional \$23 million in cash and in-kind co-contributions.

We've had some big wins the past year. Our partnerships with two Research and Development Corporations, the Grains Research and Development Corporation (GRDC) and the Cotton Research and Development Corporation (CRDC) demonstrate the value in knowledge and resource sharing for a common vision. By co-investing in four strategically important broadacre cropping projects we will, for the first time, deliver commercially relevant data for the tropical Northern Australian climate and hopefully progress the long-held belief that cropping can be an economical option for pastoralists when part of an integrated farming system. Our analysis of the aquaculture and beef sectors further highlights the importance of a northern broadacre cropping sector, with need to provide a sustainable and affordable feedstock for cattle

and aquaculture products known to be crucial to the continued development of these sectors.

Towards the end of 2019, we announced our largest collaboration in terms of CRCNA investment to date – our Tropical Rock Oyster R&D project in the Northern Territory and Western Australia. We're investing \$1.2 million over 3 years to support these teams in their work to develop and breed Black Lip Oysters suitable for commercial harvest in northern waters. This project is working closely with three Indigenous organisations to develop skills and capacity within communities and deliver long-term economic opportunities.

We cannot talk about the summer of 2019/20 without mentioning the bushfires which raged across our southern states. Our Western Australian Project Manager, Catherine Marriott was personally affected by these fires as so many people and communities were. I thank Catherine for her commitment to the CRCNA as she continued to work through such a harrowing period.

Catherine has since taken up a full-time role with the NSW Government assisting them with the bushfire recovery and so we welcomed Dr Lindy Swain as the new Western Australian Project Manager in March 2020. Our Queensland Project Manager Kristin Nunn also relocated to Darwin with her family.

2020 was not going to be outdone by 2019 it seemed, with the COVID-19 pandemic wreaking havoc across many of our research projects. I'm proud to say the CRCNA staff were

able to work from home safely and continued to progress project contracting and payments to participants. We've worked with those projects impacted by the pandemic, supporting them to deliver outputs and, where appropriate, allowing for extra time to complete milestones interrupted by travel restrictions and the closing of Indigenous communities.

Natural disasters and pandemic aside, the CRCNA has had a very successful year. Here are some more highlights from 2019/20.

- Our third open funding call attracted 38 research EOs and eight progressed through to research plan development.
- More than 50 industry and jurisdictional representatives joined our researchers and Board for a workshop to help inform and develop the CRCNA's future research priorities and strategy.
- The Western Australian Tropical Rock Oyster R&D project successfully bred Black Lip Rock Oysters for the first time in the Hillarys marine shellfish hatchery near Perth.
- As a consequence of COVID-19 restrictions we ran our first Zoom virtual field day with more than 100 participants. This proved a useful and successful exercise for producers, researchers, our partner investors and the broader industry to see how the three Queensland-based broadacre cropping projects were tracking. We appreciated the willingness of all to contribute to make this a success.



HERBERT MP PHILLIP THOMPSON OAM AND CRCNA CEO JED MATZ AT THE LAUNCH OF THE NORTHERN AUSTRALIAN AQUACULTURE SITUATIONAL ANALYSIS REPORT AT JCU, TOWNSVILLE.

- 85 people representing a range of aquaculture sectors (barramundi, prawns, redclaw, tropical oysters and lobsters) attended an industry workshop in Rockhampton on 5 February 2020. The group discussed the findings, recommendations and next steps stemming from the CRCNA's Northern Australia aquaculture industry situational analysis study.
- We facilitated an R&D tax incentive webinar for people interested in industry investment in research and development. It provided knowledge of the program, the registration process, and the type of activities can be claimed under the R&D Tax Incentive. This information is for the benefit of current and potential project participants.
- The CRCNA agreed to an in-kind partnership with the Future Food System CRC and ongoing relationships with the Digital Health CRC, Food Agility CRC and Fighting Food Waste CRC. Each of these CRCs are working in areas complementary to the CRCNA so working with them and sharing research will avoid duplication

and support stronger industry-researcher collaborations.

- Our research leads from the sector situational analysis projects participated in a panel session at the TropAg event in Brisbane.
- We held our first Member networking event after the AGM in Townsville in November 2019.
- The CRCNA invested in two AgriFutures Horizon student bursaries.
- Operationally we have successfully integrated online membership payments and are continuing to transition our project management systems into an integrated platform.
- We've had more than 300 media articles published and more than doubled our social media following across our Twitter, Facebook, YouTube and LinkedIn platforms.

Looking ahead

2020/21 will see the CRCNA move to consolidate our gains from these past three years and push for Northern Australian development opportunities to be a key driver for

Australia's economic recovery from the COVID-19 pandemic.

We will deliver our first State of the North report at the 2020 Developing Northern Australia Conference and continue to search for innovative research proposals with our fourth competitive funding call (August 2020).

I'd like to thank CRCNA staff, project participants and our Commonwealth and jurisdictional partners (Queensland Department of Agriculture and Fisheries, Northern Territory Department of Industry, Tourism and Trade and the Western Australian Department of Primary Industries and Regional Development) for their continued support. Thanks also to the CRCNA Board for their work and support.

In memoriam

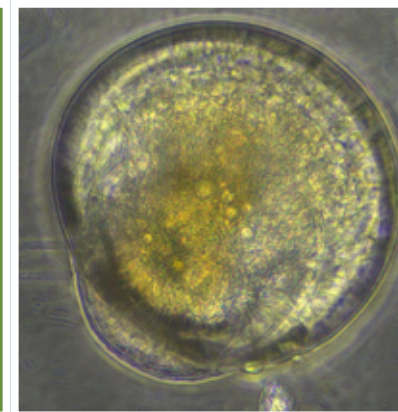
This year the CRCNA lost one of its inaugural Directors, Gigari George. I'd like to honour Gigari and her commitment to Northern Australia, her People and her Country. On behalf of the CRCNA staff, I offer my condolences to her family.

OUR RESEARCH
2019/20 HIGHLIGHTS



\$54m
COMMITTED TO
CURRENT AND
FUTURE PROJECTS
INCLUDING CRCNA
AND PARTICIPANT
CO-CONTRIBUTIONS

\$22.4m
IN CRCNA CASH
COMMITTED TO
CURRENT AND
FUTURE PROJECTS



17
NEW PROJECTS
COMMENCED RESEARCH
ACTIVITIES



12
PROJECTS COMPLETED
AS AT 30 JUNE 2020



133
PROJECT
PARTICIPANTS

170
MEMBERS



42
FTE RESEARCHERS

12
EMBEDDED
POSTGRADUATE
STUDENTS



16
INDIGENOUS
ORGANISATIONS AND
AGENCIES AS PROJECT
PARTICIPANTS



18
INDUSTRY
ORGANISATIONS
AS PROJECT
PARTICIPANTS



54
SMEs AS PROJECT
PARTICIPANTS

16
GOVERNMENT AGENCIES
AND DEPARTMENTS



5
LARGE
COMPANIES AND
ORGANISATIONS
AS PROJECT
PARTICIPANTS



1
INTERNATIONAL
ORGANISATION AS
PROJECT PARTICIPANT



15
RESEARCH, EDUCATION
AND TRAINING
INSTITUTIONS AS
PROJECT PARTICIPANTS



2
REGIONAL
DEVELOPMENT
ASSOCIATIONS AS
PROJECT PARTICIPANTS



300+
MEDIA ARTICLES
AND MENTIONS



RESEARCH FOCUS AREAS FOR NORTHERN AUSTRALIA

With our initial \$75m, 10-year funding from the Commonwealth, the CRCNA invests in industry-led research collaborations which support the development of new technologies, products and services to resolve challenges and exploit opportunities within three initial focus areas:

1. AGRICULTURE AND FOOD (INCLUDING AQUACULTURE AND HORTICULTURE)

2. NORTHERN AUSTRALIA HEALTH SERVICE DELIVERY

3. TRADITIONAL OWNER-LED BUSINESS DEVELOPMENT IN THE AREAS OF:
 - AGRICULTURE AND FOOD
 - HEALTH SERVICE DELIVERY AND MODELS OF CARE.

CRCNA RESEARCH PROGRAMS

The research activities of the CRCNA are delivered through seven research programs.

RESEARCH PILLAR	RESEARCH PROGRAM	OBJECTIVE
SECTOR AND SUPPLY CHAIN DEVELOPMENT	1. Sector and supply chain development	Deliver an evidence base which prioritises sector, supply chain and infrastructure investment to provide timely access to high-value international and domestic markets.
	2. New and developing industries in Northern Australia	Grow new and improve developing industries in Northern Australia.
INNOVATION	3. Industry-specific production and supply chain innovation in Northern Australia	Support the development and growth of established industries by identifying value-add opportunities, new markets, improving supply chains and enhancing productivity.
	4. Building industry and community capacity in Northern Australia, in Traditional Owner-led businesses and enterprise	De-risk investment in Traditional Owner-led enterprises and enhance the skills and capabilities of Aboriginal and Torres Strait Islander peoples.
CAPACITY BUILDING	5. Develop Northern Australian health service delivery and models of care	Research collaborations which deliver innovative models of health service delivery across Northern Australia, including diagnostic and treatment service models and mental health service delivery.
NORTHERN HEALTH SERVICE DELIVERY	6. Industry-focused education and training program	Industry-focused education and training program to boost Northern Australia's R, D & E capacity and deliver an appropriately skilled workforce.
EDUCATION AND TRAINING	7. Policy development and investment solutions	Broker strategic discussions with relevant decision-makers and stakeholders and guide a coordinated approach which informs development planning and investment decision making across jurisdictions.
DEVELOPING STRATEGIC POLICY SOLUTIONS		

RESEARCH PROGRAM 1: SECTOR AND SUPPLY CHAIN DEVELOPMENT

To deliver an evidence base which prioritises sector, supply chain and infrastructure investment to provide timely access to high-value international and domestic markets.

OUTPUT 1.1 Sectorial gap analysis and capacity baseline studies for the beef, broadacre cropping, aquaculture, horticulture, rice, forestry, indigenous agriculture, sugarcane and health service delivery sectors in Northern Australia.

OUTPUT 1.2 Emerging market, supply chain gap analysis and capacity baseline studies for key supply chains across Northern Australia.

OUTPUT 1.3 A report identifying new policy and investment directions for Northern Australia and the measurement of progress/continuous improvement across the wider Northern Australian agenda.

PROJECT NUMBER	PROJECT NAME	PARTICIPANTS	STATUS
A.1.1718014	Evaluation of the potential to expand horticultural industries in Northern Australia	UQ Horticulture Innovation Australia DAF NT DPIR WA DPIRD	Completed September 2020
A.1.1718120	Northern Australia rice industry situational analysis	QAAFI UQ CDU Olive Vale Pastoral SunRice WA DPIRD DAF	Progressing – expected to be completed December 2020
AHT.1.1920050	State of the North	AEC	Progressing
A.1.1718118	Northern Australian broadacre cropping situational analysis	Pivotal Point Strategic Directions ST Strategic Services Pty Ltd	Completed
H.1.1819103	Northern Australian health services delivery situational analysis	JCU Cairns and Hinterland Hospital and Health Service Top End Health Service RCS WA - UWA	Completed
A.1.1718117	Northern Australia beef sector situation analysis	CSIRO NTCA KPCA CCA MLA	Completed

PROJECT NUMBER	PROJECT NAME	PARTICIPANTS	STATUS
A.1.1718119	Northern Australian aquaculture Industry situational Analysis	JCU CSIRO Blueshift Consulting ABFA APFA ILSC	Completed
A.1.1718122	Northern Australia forestry and forest products industry situational analysis	Timber Queensland DAF NT DPIR USC	Completed
AT.1.1718054	Building Traditional Owner-led bush products enterprises with global supply chains	CSIRO Kimberley Land Council Girringun Aboriginal Corporation TIEC In-Group Investments JCU ANFAB	Completed
A.1.1819078	Capturing the ASEAN Agricultural opportunity for Northern Australia	AustCham ASEAN	Completed
A.1.1819039	Mackay, Isaac, Whitsunday agribusiness export supply chain mapping study	GW3 North Queensland Bulk Ports RDA: Mackay-Isaac-Whitsunday Bowen Gumlu Growers' Association	Completed
A.1.1819043	Growth of agricultural exports from FNQ through enhanced supply chains	Advance Cairns Cairns Airport Ports North Air Freight Handling Services DAF JCU FNQROC	Completed
A.1.1718104	North Queensland agricultural supply chain study	TEL NQ ROC	Completed
H.1.1819103	Northern Australian health service delivery situational analysis	JCU Cairns and Hinterland hospital and health service - Tropical Australian Academic Health Centre Northern Territory of Australia - Top End Health Service RCSWA - UWA	Completed

NORTHERN AUSTRALIA FORESTRY AND FOREST PRODUCT SITUATIONAL ANALYSIS

CRCNA PROJECT NUMBER: A.1.1718122

PARTICIPANTS

- Timber Queensland
- Northern Territory Department of Primary Industry and Resources
- University of the Sunshine Coast
- Department of Agriculture and Fisheries, Queensland

The following partners made cash co-contributions via Timber Queensland. and were involved in the project through the project Steering Committee, or the Regional Forums:

- Forest Products Commission WA
- Plantation Management Partners NT
- Midway
- HQ Plantations
- Simms Group
- DTM Timber/ Branch 95
- Quintis Ltd
- Alpha Santanol Pty Ltd

WHAT DOES THIS PROJECT DEMONSTRATE?

- Delivered an agreed Industry vision.
- Identified a need for improved stakeholder engagement and participation across the sector.
- Improved carbon accounting research and access to carbon markets.
- Highlighted a need for ongoing forest inventory and silvicultural information, especially for native forests.

TOTAL PROJECT VALUE	\$209,327
CRCNA FUNDING	\$100,000

OVERVIEW

This project sought to identify key challenges and opportunities facing the Northern Australian forestry and forest product sector, and to explore potential solutions and identify the most strategic research projects for further investment.

The scope of the study included infrastructure, policy, investment, environmental, production, knowledge, training and human capital gaps.

RESEARCH HIGHLIGHTS

- With the right support and investment planning, the Northern Australian forestry and forest product sectors could grow its annual production output value from \$80 million to \$300 million in the next 5-10 years.
- 600 direct jobs in the forest products industry
- 13 million ha of native forest with commercial potential
- 22 million ha of private native forest
- 100,000 ha of plantation forest

IDENTIFIED REGIONS FOR DEVELOPMENT

FAR NORTH QUEENSLAND (excluding Cape York) Of all of Australia's plantation regions, Far North Queensland has the largest area of land on which softwood plantations may be potentially viable. Largest plantation resource is softwood pine.

CAPE YORK Has an extensive area of Indigenous owned or managed forest. The communities are seeking economic activity to create business and jobs. In general, the forests of Cape York are large and valuable.

EAST ARNHEM LAND Comprises vast indigenous owned and managed native forests. A Gumatji owned hardwood mill provides sawn products to local markets.

TIWI ISLANDS Acacia plantations providing export chips for pulp and bioenergy markets, with interest in transferring to more productive eucalyptus species. Woodchip processing and wharf facilities on Melville Island.

DOUGLAS DALY AND KATHERINE These regions include maturing African mahogany and Indian sandalwood plantations which can be harvested and sold. There are also opportunities for further investment in silvopastoral projects, especially with cattle.

NORTHERN WESTERN AUSTRALIA Has the world's largest commercial Indian sandalwood plantation in the Ord River Irrigation Area, which is also home to commercial African Mahogany plantations.

KEY RECOMMENDATIONS

1. Build on the newly formed industry and cross-jurisdictional agency alliance to promote forest sector development across Northern Australia.
2. Promote indigenous forestry development through better engagement models and commercial arrangements between industry and indigenous landowners and build indigenous forestry capacity and understanding of commercial forest resources, including forest resource inventory.
3. Develop secure access arrangements for supply from crown native forest land (i.e. leasehold) in northern Queensland.
4. Develop a market research study into the potential supply and demand for wood products from Northern Australia, including key markets and supply chain needs (e.g. regional infrastructure).
5. Assess silvopastoral opportunities (i.e. integrated forestry and livestock production) as a vehicle for new commercial tree plantings.
6. Review Emissions Reduction Fund (ERF) barriers to carbon market access for forestry activities, with priority on the 'water rule' requirement for new plantations.

NEXT STEPS FOR DEVELOPMENT

An Industry Development Alliance comprising of CRCNA Forestry and Forest Products Industry Situation Analysis project partners and a number of relevant State departments, industry bodies and companies will work with relevant key influencers to identify new research and development proposals, offer targeted briefings at key policy fora and meetings and ensure greater industry collaboration and partnerships in Northern Australia.

THIS HAS BEEN AN EXCELLENT COLLABORATION BETWEEN INDUSTRY RESEARCHERS STATE DEPARTMENTS, LANDHOLDERS AND STAKEHOLDERS ACROSS THE NORTH WHICH HAS IDENTIFIED A BASELINE OF INFORMATION ON WHICH WE CAN BUILD THE POTENTIAL FOR GROWING OUR INDUSTRY

— MICK STEPHENS, CEO TIMBER QUEENSLAND



RESEARCH PROGRAM 2: NEW AND DEVELOPING INDUSTRIES IN NORTHERN AUSTRALIA

OBJECTIVE: Grow new and improve developing industries and assist the establishment of new industries in Northern Australia.

OUTPUT 2.1 New technologies, production systems, efficiencies and approaches which assist growth across emerging industries.

PROJECT NUMBER	PROJECT NAME	PARTICIPANTS	STATUS
AT.2.1718098	Cherabin aquaculture production as an enabler for Indigenous business development	North Regional TAFE Emama Nguda Aboriginal Corporation	Progressing
AT.2.1718031	Improving the efficiency of Kakadu Plum /Gubinge value chains to grow a robust and sustainable industry	QAAFI UQ CDU T.H.E	Progressing
A.2.1819105	Developing a broadacre cropping sector in northern Queensland	DAF The trustee for Fry Bloodline TM Trust	Progressing
A.2.1718116	Developing an oilseed industry in Northern Australia	Savannah Ag Consulting Olive Vale Pastoral The Lakeland Farming Trust MSF Sugar	Progressing
A.2.1819106	De-risking broadacre cropping options in northern Queensland	QAAFI UQ Radicle Seeds Australia Pty Ltd Curra Station Strathmore Station Prestwood Station Northern Gulf Resource Management Group AgForce Qld Elders	Progressing
A.2.1819045	Spicing up Northern Australia with high-value condiment crops	CQUni Agriventis Technologies Pty Ltd RRC T.R.A.P Services BBIFMAC Foxwell Farming G Kennedy & I.J Kennedy Kenrose Co Pty Ltd Kennedy Valley Farming NT DPIR WA DPIRD	Progressing



CHERABIN
PHOTO: EMAMA NGUDA ABORIGINAL CORPORATION

PROJECT NUMBER	PROJECT NAME	PARTICIPANTS	STATUS
A.2.1819053	Northern Australian Tropical Rock Oyster R&D	NT DPIR WA DPIRD DigsFish Services Pty Ltd Yagbani Aboriginal Corporation Anindilyakwa Land Council Maxima Rock Oyster Company Albany Shellfish Hatchery Murujuga Aboriginal Corporation Hexcyl Systems Pty Ltd SEAPA ZAPCO Aquaculture	Progressing
A.2.1819004	Potential for broadacre cropping in the Northern Territory	Various producers NT DPIR USQ CSIRO NT Farmers NT DENR DAF CSD	Progressing
HT.2.1718007	Enabling a traditional medicinal plant agribusiness	Integria Healthcare T.H.E Menzies UQ	Progressing
AT.2.1718054	Building the Traditional Owner-led bush products sector	CSIRO Kimberley Land Council Girringun Aboriginal Corporation TIEC In-Group Investments JCU ANFB	Completed

NORTHERN AUSTRALIA TROPICAL ROCK OYSTER RESEARCH AND DEVELOPMENT

CRCNA PROJECT NUMBER: A.2.1819053

NORTHERN TERRITORY

- Northern Territory Department of Primary Industry and Resources
- Yagbani Aboriginal Corporation
- DigsFish
- Anindilyakawa Land Council

WESTERN AUSTRALIA

- Western Australian Department of Primary Industries and Regional Development
- Maxima Rock Oyster Company
- Zapco
- SEAPA
- Murujuga Aboriginal Corporation
- Albany Shellfish Hatchery
- Hexcyl Systems Pty Ltd

WHAT DOES THIS PROJECT DEMONSTRATE?

- There is cross-jurisdictional interest in the development of a Tropical Rock Oyster (TRO) aquaculture industry in Northern Australia and an anticipated strong market for TRO products.

RESEARCH OVERVIEW

This project aims to establish a collaborative cross-jurisdictional approach to address the most significant technical and regulatory issues which confront Northern Australia's fledgling Tropical Rock Oyster industry.

This project is the first cross jurisdictional phase of industry development and it is expected several further phases will be needed. The work described here represents three of four related sub-projects.

These have been separated due to their complexity and contractual challenges of the work being undertaken.

The three sub-projects addressed by this project are:

- 1) Biosecurity and Translocation Risk Assessment and Species Identification
- 2) Securing commercial spat supply
- 3) Optimisation of grow-out methods and gear technology.

TOTAL PROJECT VALUE	\$4,124,090
CRCNA FUNDING	\$1,200,000

RESEARCH HIGHLIGHTS WA

- Establishment of WA's first pilot scale R&D TRO hatchery and nursery which enables further research into two TRO species and the production of the first batch of black lip rock oyster in WA enabled R&D into 2 species of TRO and importantly the production of a first batch of black lip rock oyster in Western Australia.
- Hatchery R&D trials have indicated for the first time the importance of nutrition to produce TRO seed. While work continues to consolidate these results, the performance metrics (i.e. settlement rates as high as 40%) from TRO in the hatchery are promising and indicate commercial production of TRO seed is possible.

This is a critical part of this project as seed production in WA will have significant and positive flow on impact for the proposed farming trials with Maxima Rock Oyster Company and for the many oyster farming proponents awaiting TRO seed to start trials in WA.

- The project has enabled the partnership between WA DPIRD and industry (Maxima Rock Oyster Company, Murujuga Aboriginal Corporation and oyster farming equipment suppliers Hexcyl, SEAPA and Zapco) which has been critical to the selection and setting up of trial sites in the Pilbara and the Kimberley, to the collection of broodstock for hatchery trials and to the collection of wild oyster juveniles for bioprospection and farming trials.



RESEARCH HIGHLIGHTS NT

SUB-PROJECT 1 – BIOSECURITY

- Draft Tropical Oyster Pest and Disease Risk Assessment Sampled 750 wild oysters across five locations in Northern Australia (2 x NT, 2x WA and 1 x Qld) for pest and disease screening and baseline information to inform the risk assessment
- Developed discussion paper on the need to establish registered standard names for tropical oysters. Industry engagement to occur in late 2020.

SUB-PROJECT 2 – HATCHERY

- Purchased and installed experimental hatchery systems, tanks, nursery and larval rearing and settlement systems at the Darwin Aquaculture Centre
- Completion of two Pilot experiments, one on broodstock conditioning experiment and another on larval settlement.
- The project has and continues to support the participation of a Masters student from James Cook University in Broodstock conditioning experiments.
- Completed two larval settlement trials, the results of these have provided indicated salinity is an important factor in larvae settlement. Further research will investigate this in experiment over the 20/21 production season (September 20 – March 21).

SUB-PROJECT 3 – GROW OUT

- Installation of 200m longline for grow out trial at South Goulburn Island.
- Oyster experts Leon and Chris Stott from South Australia attended and advised on gear installation at South Goulburn Island. This was supported by the project and the gear manufacturer SEAPA and resulted in a positive relationship between Yagbani Aboriginal Corporation and the Stott's who have been providing ongoing advice and mentoring.
- Grow out experiment at South Goulburn stocked with spat and two data collection stages completed.
- Oysters are growing well and new system is performing exceptionally, with demonstrated resilience to high winds and choppy conditions.
- Farm site confirmed at Groote Eylandt and Hexcyl farming equipment purchased and transported to site for installation in August 2020.

ESTABLISHING THE FIRST PILOT SCALE R&D HATCHERY AND NURSERY FOR TROPICAL ROCK OYSTERS ENABLED THE PRODUCTION OF BLACK LIP ROCK OYSTERS FOR THE FIRST TIME IN WA.
— PROF. MICHEL BERMUDES, PROJECT LEAD WA DPIRD



THIS PROJECT IS BUILDING A SUSTAINABLE BUSINESS FROM OUR LAND AND SEA COUNTRY WITH POTENTIAL TO CREATE NEW JOBS AND TRAINING OPPORTUNITIES FOR OUR MEMBERS AND PROVIDES A NEW PLATFORM FOR SHARING OUR LOCAL KNOWLEDGE AND CULTURE.
— VINCE ADAMS, CHAIR MURUJUGA ABORIGINAL CORPORATION

BROADACRE CROPPING IN NORTHERN AUSTRALIA

The CRCNA’s Northern Australia broadacre cropping situational analysis confirmed broadacre cropping is an important part of a farming business – but the most value is realised when it is integrated with other enterprises, particularly beef production. The integration with beef production across the north is further supported by the CRCNA’s Northern Australia beef sector situational analysis, which found cropping could provide a means of diversification and provide a critical platform to grow northern herds.

The capacity to grow a range of crops in the north is apparent. Still, due to the barriers, costs and risks of broadacre cropping in the tropics, Northern Australian producers need to leverage crop production as part of a broader business value proposition to promote sustainability and business profitability. The Northern Australian broadacre cropping situational analysis also concluded more locally based crop trials focussed on testing production models in real commercial contexts will provide more data to inform producers’ decisions better and with consideration for the northern tropical climate and growing conditions.

For example, the CRCNA has co-invested more than \$2.4 million with the Grains Research and Development Corporation (GRDC) in four broadacre cropping projects, three of which are in Far North Queensland, the fourth in partnership with Cotton Research and Development Corporation (CRDC) is being undertaken in the Northern Territory

Notably, the project teams share their successes and failures and meet regularly to share knowledge and help build the intellectual and physical data and information required to better inform decision making and investment planning for producers and pastoralists across the region.

A.1.1718118	Northern Australian broadacre cropping situational analysis
A.2.1819004	Developing a cropping sector in the NT
A.2.1718116	Developing an oilseed industry in Northern Australia
A.2.1819106	De – risking Northern Queensland cropping
A.2.1819105	Developing a broadacre cropping sector in northern Queensland



PEANUTS BEING HARVESTED IN ALI CURUNG, NT.
PHOTO: NT FARMERS.





FURROWS BEING INSTALLED AT FOREST HOME STATION RESEARCH SITE, FNQ IN FEBRUARY 2020.
PHOTO: DAF, LANCE PENDERGAST.

A.2.1718116 DEVELOPING AN OILSEED INDUSTRY IN NORTHERN AUSTRALIA

(PROJECT LEAD – TONY MATCHETT, SAVANNAH AG CONSULTING)

This project is trialling high-value oilseed crops such as sesame, soybeans, sunflowers, safflower, linseed, canola, mustards and nigella. These crops can be utilised in a range of market segments from whole seed to food-grade vegetable oil, health and wellbeing products and for high-value industrial applications.

A.2.1819105 DEVELOPING A BROADACRE CROPPING SECTOR IN NORTHERN QUEENSLAND

(PROJECT LEAD – DEPARTMENT AGRICULTURE AND FISHERIES)

This project works with new and existing producers and the agri-business sector to develop profitable cropping systems and agronomic skills in the northern Gulf region in Far North Queensland.

Understanding crop performance variability assists local landholders and potential investors in developing appropriate cropping systems for the region.

A replicated cropping trial site has been established on Forest Home Station. This season, varieties of cotton, mungbean, sesame and soybean have been planted. A rain-grown versus overhead irrigation cotton demonstration is also being evaluated.

A.2.1819106 DE-RISKING NORTHERN QUEENSLAND CROPPING

(PROJECT LEAD – UQ QAAFI)

The potential for dryland cropping in Northern Queensland relies on its high though variable rainfall, large areas of productive soils and the opportunity to add value to predominantly extensive rangeland activities while diversifying farmers' sources of income.

The project is looking to:

- identifying best adapted maize, grain and forage sorghum cultivars, cropping systems and agronomic practices
- identifying optimum combinations of hybrid characteristics likely to confer adaptation to northern Queensland environments and markets
- ensuring research is driven by the needs of growers, and outputs and outcomes are widely disseminated for growers' and industry's benefit.

A webpage has been set up at QAAFI's Farming Systems Research Group <https://www.qld-fsr.info/> to serve as a repository of technical reports and information.

FALL ARMYWORM

Fall armyworm (FAW) (*Spodoptera frugiperda*) is an exotic pest which was first detected on two Torres Strait islands in January 2020. The first mainland detection in Australia was at Bamaga in February 2020.

Subsequent detections have now been confirmed in Croydon, South Johnstone, Tolga, Lakeland, the Burdekin, Bowen, Bundaberg and Emerald. It has also been detected in the Northern Territory and northern Western Australia.

FAW caterpillars eat more than 350 different plants, including corn, sugarcane, rice, many vegetables and fruit crops.

Despite the quick response by researchers to treat the infestation, the CRCNA's maize crop trials in the Gilbert Catchment were decimated, while heavily infested crops on Atherton Tablelands appeared unaffected at flowering and crop maturity. Sorghum crops at two trial sites were also detected, but damage was localised in sections within plots and correlated with ground cover rather than genotype.

The FAW incursion highlights the importance of biosecurity protocols on-farm and more broadly.

More information about FAW can be found at the www.business.qld.gov.au website.

A.2.1819004 DEVELOPING A CROPPING SECTOR IN THE NT

(PROJECT LEAD – NORTHERN TERRITORY DEPARTMENT OF PRIMARY INDUSTRY AND RESOURCES)

This project will use cropping simulations, on-farm crop trials, historical crop trial data, and natural resource data to develop a background information resource to inform and de-risk the investment and farming systems decisions made by farmers and agri-businesses. On-farm crop trials will further serve as extension tools to communicate to NT farmers and pastoralists the potential and issues with diversifying to broadacre cropping in the unique climate of the Top End.

The initial focus is on rain-fed and irrigated systems growing cotton and peanut crops as foundation, high-return crops. The whole farming system is integrated into this research by investigating maize, sorghum, rice and pulse crops as possible 'break crop' options.





SPECIALTY MELON TRIAL AT AYR QLD. PHOTO: DAF, DR ELIO JOVICICH.

RESEARCH PROGRAM 3: INDUSTRY-SPECIFIC PRODUCTION AND SUPPLY CHAIN INNOVATION IN NORTHERN AUSTRALIA

OBJECTIVE: Support the development and growth of established industries by identifying value-add opportunities, new markets, improving supply chains and enhancing productivity.

OUTPUT 3.1 New technologies, production systems, efficiencies and approaches which resolve barriers within established industries.

PROJECT NUMBER	PROJECT NAME	PARTICIPANTS	STATUS
A.3.1718083	Smart Supply Chains	Trust Provenance Manbulloo Ltd Growcom	Completed
A.3.1819067	Strengthening Northern Australia's horticultural sector through assessing protected cropping value chain linkages and pathways for adoption (Protected cropping systems)	DAF WA DPIRD Carnarvon Growers' Association NT Farmers Cravo Australia Pty Ltd Port of Townsville Ltd Pirrone Brothers Produce	Progressing
A.3.1718105	Transforming mango futures	DAF Manbulloo Ltd BJM Enterprises AMIA	Progressing
A.3.1819007	Sustainable export supply chains for Calypso mango to China	Perfection Fresh Australia Ltd UQ DAF	Progressing

CAPSICUMS UNDER A SHADE HOUSE IN CARNARVON, WA.
PHOTO: DAF, DR ELIO JOVICICH.

PROTECTED CROPPING SYSTEMS

CRCNA PROJECT NUMBER: A.3.1819067

STRENGTHENING NORTHERN AUSTRALIA'S HORTICULTURAL SECTOR THROUGH ASSESSING PROTECTED CROPPING VALUE CHAIN LINKAGES AND PATHWAYS FOR ADOPTION

PARTICIPANTS

- Department of Agriculture and Fisheries, Queensland
- Western Australian Department of Primary Industries and Regional Development
- Carnarvon Growers' Association
- NT Farmers
- Cravo Australia Ptd Ltd
- Port of Townsville
- Pirrone Brothers Produce

WHAT DOES THIS PROJECT SEEK TO DEMONSTRATE?

This project brings together an R&D partnership between industry stakeholders and government organisations across northern QLD, NT, and WA which will support growers to identify new investments to scale-up commercial protected cropping (PC).

The development of a road map of potential pathways for increased benefits to farmers through PC adoption will provide current and new growers tangible steps which can be taken and identify ways northern Australia's vegetable and fruit export value chains can be strengthened.

RESEARCH OVERVIEW & HIGHLIGHTS

A planned study trip to Mexico was cancelled due to the COVID-19 travel restrictions, but industry engagement activities through technical support, on-farm crop demonstrations with collaborators, preparation of trial sites, stakeholder interviews, and information dissemination on protected cropping for Northern Australia continued.

TOTAL PROJECT VALUE	\$443,045
CRCNA FUNDING	\$100,000

QUEENSLAND

- The project team provided technical support and advice to produce high quality eggplants and the first trial of specialty melons under protected cropping in the QLD Wet Tropics.
- The team is now planning follow-up melon trials and crops for the summer season.
- The team selected and designed protected cropping and irrigation equipment for the new RD&E and demonstration site at Ayr. The site will be used for workshops with growers and other industry stakeholders. The first grower visit to the site was organised in June 2020.

NORTHERN TERRITORY

- A workshop organised by NT Farmers and AUSVEG in February 2020 peaked the interest of producers - with one WA-based farmer who attended the NT event going on to test a small plot with specialty melons.

WESTERN AUSTRALIA

- A net and shade screen structure was setup by DPIRD as a trial in a commercial grapefruit orchard in Carnarvon. The reduction of wind speed and solar radiation under this structure is showing improved fruit quality and yield.

WHAT NEXT?

The next round of grower demonstrations was scheduled to take place at the DAF demonstration site in Ayr in August/September 2020, with more regional meetings also planned pending COVID-19 restrictions.

Next year will focus on reviewing the outcomes and delivering tools for growers to assist their decision making, including rules of thumb for adopting protected cropping systems in the far north of Australia.

EXCELLENT OUTCOMES GROWING EGGPLANTS IN 2019 LED TO A SUBSEQUENT CROP IN 2020 IN FAR NORTH QUEENSLAND, WITH SMALL COMMERCIAL VOLUMES SENT TO DOMESTIC MARKETS AND EXPORT MARKETS ACROSS ASIA IN 2019

— DR ELIO JOVICICH, DAF PROJECT LEAD.



MAURICE GAWAYAKU WORKING AT THE YAGBANI ABORIGINAL CORPORATION OYSTER FARM ON SOUTH GOULBURN ISLAND, NT. PHOTO: DR SAMANTHA NOWLAND, NT DITT

RESEARCH PROGRAM 4: BUILDING INDUSTRY AND COMMUNITY CAPACITY IN NORTHERN AUSTRALIA IN TRADITIONAL OWNER-LED BUSINESSES AND ENTERPRISE

OBJECTIVE: De-risk investment in Traditional Owner-led enterprises and enhance the skills and capabilities of Indigenous and Torres Strait Islander peoples.

OUTPUT 4.1 Reports and guidelines that address key barriers, inform management of risk, and document new approaches to Traditional Owner led business development.

PROJECT NUMBER	PROJECT NAME	PARTICIPANTS	STATUS
AT.4.1819006	Co-mapping on Country: train the trainer for sustainable development	Centrefarm Aboriginal Horticulture Ltd NAILSMA Northern Land Council CDU	Progressing
AT.4.1718111	Business on Country: Land use diversification on Indigenous Estate	NAILSMA Darwin Centre for Bushfire Research, CDU Northern Land Council The Trustee for the Nature Conservancy Australia Trust	Progressing - expected to be completed October 2020
AT.4.1718040	Building horticultural production knowledge and capacity	Growcom Mungalla Aboriginal Business Corporation Gudjuda Reference Group Aboriginal Corporation	Progressing



WESTERN YALANJI, QLD
PHOTO: NAILSMA

BUSINESS ON COUNTRY: LAND USE DIVERSIFICATION ON INDIGENOUS ESTATE

CRCNA PROJECT NUMBER: AT.4.1718111

PARTICIPANTS

- North Australia Indigenous Land and Sea Management Alliance (NAILSMA)
- Darwin Centre for Bushfire Research – Charles Darwin University
- Northern Land Council
- The trustee for the Nature Conservancy Australia Trust

TOTAL PROJECT VALUE	\$1,000,177
CRCNA FUNDING	\$363,636

WHAT DOES THIS PROJECT SEEK TO DEMONSTRATE?

There is an interest from Indigenous landholders to contribute to maintenance of connections to land, sustaining the customary economy and meeting cultural obligations as well as delivering economic benefits.

CURRENT STATE OF THE INDIGENOUS ESTATE

Of the 1.9 million km² of tropical savannah in Northern Australia where much of the present speculation about opportunity in agriculture and other resource development is focused, 28% (of 1.9 million km²) or about 53 million ha is owned by Indigenous people. The asset, however, has yet to generate much economic activity for the people who own and live on it.

The Indigenous estate is confined mostly to lower elevation regions suitable for agricultural production, but also includes areas of rocky, broken terrain that are unsuitable (e.g. The Arnhem Land Plateau).

RESEARCH OVERVIEW

This research addresses key barriers to Indigenous-led development, informs management of risk for investors, landowners and communities and documents approaches for future expansion and application across Northern Australia. Specific research objectives are to:

- consolidate existing information on opportunities and constraints in land, sea and resource use on the Indigenous estate, and present options for discussion by Indigenous landholders.
- review, refine and agree, with landowners, their estate managers and supporting organisations, future best practice approaches to detailed, location-specific analysis of development options.
- identify, three implementation areas on which to apply and test agreed approaches, inclusive of the pastoral and agricultural context.

RESEARCH HIGHLIGHTS AND OPPORTUNITIES

- Development and delivery of four Land Use and Economic Development Plans for Western Yalanji Aboriginal Corporation, Normanby Aboriginal Corporation, Waanyi Garawa and Nyamba Buru Yawuru which identified the following areas of interest for further development:
 - land and sea management, often ranger work
 - horticulture, often small scale for local supply
 - pastoralism, often small scale for local supply
 - wild harvest, especially of feral animals
 - fisheries, including aquaculture

- various minor construction and maintenance services, especially fencing and roadworks
- forestry, usually around harvesting of natural stands rather than establishing plantations
- manufacturing only regarding furniture making and minor processing of bush products
- participation in ecosystem service markets i.e. Savannah burning / carbon industry
- Cultural tourism/ culture-based tourism

Other opportunities include:

- Development of supporting infrastructure for mining activity that can support broader economic development. While mining, petroleum and gas require specialist services, opportunities for work that indirectly supports a local oil or gas development will become available to manage biophysical, socio-economic or cultural impacts of the resource operation.
- Western Yalanji (Cape York, FNQ) expressed an interest in renewable energy development, such as investment in renewable, like solar
- Aboriginal people have proven capacity to deliver “repair” and services that can facilitate a growth in the environmental and carbon offset market.

WHAT NEXT?

- Finalisation of Business on Country report, Land Use and Economic Development Plans and promotion of these documents within the communities and across Northern Australia.
- In addition to the NAILSMA work, these issues are also being strongly recognised and responded to by the Australian Government through the formation of the Indigenous Reference Group (IRG) and the development and implementation of the Northern Australian Indigenous Development Accord.

As these processes are being carried out at the pan-northern level, Traditional Owners will be in a stronger position to lead the achievement of their own development aspirations and avoid having to be responsive to externally driven development interests.



RESEARCH PROGRAM 5: DEVELOP NORTHERN AUSTRALIAN HEALTH SERVICE DELIVERY AND MODELS OF CARE

- OBJECTIVES:** Improve and enhance:
1. health outcomes of northern Australians;
 2. early detection of diseases;
 3. access to mental health treatment, diagnostic tools and technologies; and
 4. workforce skills and capabilities in delivering treatment and diagnosis.

PROJECT NUMBER	PROJECT NAME	PARTICIPANTS	STATUS
H.5.1920041	Developing a simple, robust telehealth system for remote communities	Simbani Integrated Research Emerge IT Solutions Laynhapuy Homelands Aboriginal Corporation Puntukurnu Aboriginal Medical Service SkyMesh Pty Ltd Synapse Medical Services VisionFlex Pty Ltd Charles Darwin University BIZ365	Progressing
H.5.1718035	Establishing eye-screening services to prevent avoidable blindness in remote Northern Australian communities	CSIRO Queensland Department of Health Laynhapuy Homelands Aboriginal Corporation Marthakal Homeland and Resource Centre Aboriginal Corporation	Progressing

ESTABLISHING EYE SCREENING SERVICES TO PREVENT AVOIDABLE BLINDNESS IN REMOTE NORTHERN AUSTRALIAN COMMUNITIES

CRCNA PROJECT NUMBER: H.5.1718035

PARTICIPANTS

- Commonwealth Scientific and Industrial Research Organisation (CSIRO)
- QLD Department of Health
- Laynhapuy Homelands Aboriginal Corporation
- Marthakal Homeland and Resource Centre Aboriginal Corporation

WHAT DOES THIS PROJECT SEEK TO DEMONSTRATE?

Improved access to ophthalmic health services for residents of Northern Australia can be delivered with the right technology and training supports, especially within remote communities. Providing access to such services will reduce or possibly prevent the number of cases of avoidable blindness in the region.

RESEARCH OVERVIEW

The project will implement retinal screening using a telehealth platform developed by CSIRO, where health workers will be trained to use retinal cameras to take photos of patients' eyes in remote communities. Clinical information including eye images will be uploaded to a password protected web-based application which enables secure remote review and diagnosis of information captured during eye examination by ophthalmic teams in metropolitan areas throughout Northern Australia for assessment.

The lessons learned from this research will be used to develop a new and innovative model of care for the

TOTAL PROJECT VALUE	\$1,636,362
CRCNA FUNDING	\$800,000

delivery of remote health services which will be applicable to broader health initiatives in remote communities.

RESEARCH HIGHLIGHTS

- In 2019/20, clinical eye screening services commenced using the Remote-I telehealth platform. As of 30 June 2020, clinical diagnoses for 13 patients from Marthakal Health Service and Laynhapuy Health Service in East Arnhem Land have been provided using the system. Importantly, one case of severe non-proliferative diabetic retinopathy has been detected via the system.
- Remote health workers have been trained to use retinal cameras to take photos of patients' eyes. This training has covered how to use the system for image capture, data entry, video conferencing and reviewing of diagnostic advice.
- A clinical protocol on the screening workflow has also been developed, and nurses, healthcare workers and specialists have also been trained to follow this protocol. These training activities contribute to the ongoing benefit of research outcomes in that services

will be provided in the local community on an ongoing basis, rather than requiring patients to travel to metropolitan areas, or waiting for an ophthalmologist to visit the region.

- The telehealth activities complement face-to-face examinations conducted by visiting ophthalmologists, and the training and eye health familiarisation is assisting in the development of the northern Australian workforce.

KEY LEARNING FROM CURRENT RESEARCH

A key challenge identified by the project team was developing relationships with and achieving commitment from ophthalmologists to handle referrals coming from the screening. Relationships are very important in any project, particularly when it involves delivering health services in remote areas of the Northern Territory and Queensland. In these areas, the project participants have developed sustainable models of service delivery and referral pathways to ensure that patients identified with eye issues receive appropriate treatment. The view promoted through this project is that telehealth forms a component of future State and Territory-based health service delivery which supplements (but doesn't replace) the services of visiting specialists.

WHAT NEXT?

COVID-19 has had an enormous impact on this project. Many of the Indigenous communities continue to restrict travel due to concerns about the impact COVID-19 would have within their communities. As such, much of the screening activity and specialist clinic visits were cancelled for the first half of 2020, reducing the team's capacity to gather data and deliver training to the sites. Testing and training activities will resume at a time determined by clinic managers.

THROUGH USING THE REMOTE-I TELEHEALTH PLATFORM TO SCREEN PATIENTS AT CLINICS IN EAST ARNHEM LAND WE SUCCESSFULLY DETECTED A SEVERE CASE OF NON-PROLIFERATIVE DIABETIC RETINOPATHY.

PROJECT LEAD, DR JUSTIN BOYLE RESEARCH SCIENTIST, THE AUSTRALIAN E-HEALTH RESEARCH CENTRE CSIRO



RESEARCH PROGRAM 6: INDUSTRY-FOCUSED EDUCATION AND TRAINING PROGRAM

OBJECTIVE: Increase technology development, skilled employees and R&D capacity within Northern Australia.

OUTPUT 6.1 Postgraduate Student Programs.

OUTPUT 6.2 Undergraduate and Vocational Student Program.

Through our Education Program, the CRCNA aims to provide a range of activities, educational experiences and professional development opportunities for PhD Scholars, Masters and undergraduate students as well as those students undertaking studies in vocational institutions, such as TAFE.

POSTGRADUATE STUDENT PROGRAM

Postgraduate Scholarship Students are directly affiliated with the CRCNA either by being embedded within one of our research projects (with scholarship funding included in the project proposal), or through our scholarship program.

POSTGRADUATE SCHOLARSHIPS

Our postgraduate scholarships are open for applications on an ongoing basis. We are particularly interested in students who are from Northern Australia, and through their research projects want to contribute to developing Northern Australia in the fields of agriculture, health and Traditional Owner-led businesses aligned with agriculture and health.

The CRCNA offers four types of scholarships / bursaries:

1. CRCNA 'top-up' scholarship

For students who have received the Australian Government Research Training Program (RTP) Stipend Scholarship. The CRCNA may provide an additional 75% of the student's annual stipend rate (exclusive of GST).

2. CRCNA PhD scholarship

For students who do not have an RTP scholarship, the CRCNA may provide tuition and operational expenses up to the value of \$50,000 pa (exclusive of GST), over three years.

3. PhD students embedded in ongoing CRCNA supported projects

Students embedded in CRCNA funded research projects may apply for CRCNA training and/or professional development bursaries when they become available if they have not received a CRCNA scholarship.

4. CRCNA undergraduate or vocational bursaries

The CRCNA may provide funding up to \$15,000 pa (exclusive of GST) to support participation in relevant courses that align with CRCNA research programs, for example technical staff to up-skill or update qualifications.

AERIAL SHOT OF SORGHUM HARVEST, KILCUMMIN, FNQ.
PHOTO: PROF. DANIEL RODRIGUEZ QAAFI UQ.



BURDEKIN FALLS DAM, QLD.

RESEARCH PROGRAM 7: POLICY DEVELOPMENT AND INVESTMENT SOLUTIONS

OBJECTIVE: De-risk investment in new, emerging, and established industries by identifying potential investors, policy barriers and solutions.

Output 7.1 Policy and regulatory solutions that facilitate Northern Australian development.

PROJECT NUMBER	PROJECT NAME	PARTICIPANTS	STATUS
A.7.1718124	Northern Australia agriculture investor identification and analysis	PwC	Completed
AHT.7.1718129	Northern Australian Communication analysis	Queensland University of Technology – Digital Media Research Centre (QUT) Premise The Cairns Institute (JCU) Northern Institute (CDU) Centre for Appropriate Technology (CfAT) Regional Development Australia, Northern Territory (RDANT)	Completed
A.7.1718101	Reframing smart supply chains in Northern Australia	JCU CDU	Completed
A.7.1920001NT	Prioritising, de-risking and brokering agricultural development in the Northern Territory	NAJA Business Consulting	Progressing – expected to be completed 2020
A.7.1920001WA	Prioritising, de-risking and brokering agricultural development in Western Australia	WA DPIRD NAJA Business Consulting	Progressing – expected to be completed 2020
A.7.1920001QLD	Prioritising, de-risking and brokering agricultural development in Queensland	CRCNA	Progressing –expected to be completed 2020
A.7.1920043	Improving water markets and trading through new digital technologies	Civic Ledger QDNRME RMIT Blockchain Innovation Hub Griffith University FNQ Growers	Progressing – expected to be completed October 2020

DE-RISKING INVESTMENT IN SUSTAINABLE AGRICULTURE IN NORTHERN AUSTRALIA

PROF ALLAN DALE,
CRCNA CHIEF SCIENTIST



WHAT IS AGRICULTURAL DEVELOPMENT AND DE-RISKING?

In the context of Northern Australian development, agricultural development is a general term related to a variety of agricultural, forestry and aquacultural expansion processes and practices that create new production systems or that increase the value of current production systems. Examples include the development of new irrigated and dryland broadacre cropping systems, horticulture, the emergence of new agricultural services, and the intensification of beef cattle production. Such developments might involve public or private sector investment and traverse a range of planning, assessment and approval processes.

In all cases, agricultural development in Northern Australia needs to occur in an economic, socially and environmentally beneficial way. It also needs to contribute to an increasingly diverse, integrated and value-rich agricultural processing and services economy. Further, in this context, the term de-risking refers to the way policies, regulations, planning, assessment and approval processes (of both governments and agricultural development investors) aid or enable sustainable and legitimate investment in agricultural development.

DERISKING MOST OFTEN OCCURS IN THREE DIFFERENT CONTEXTS

Both development and community interests have raised specific concerns about impediments to new investment and the achievement of sustainable agricultural development across Northern Australia. For these reasons, the CRCNA has led a wider collaboration between industry, the community and the Northern Territory, Queensland and Western Australian governments. The work has explored the issues facing the development of new agricultural activity (both in new and existing agricultural areas) across Northern Australia.

The emerging work with each of these jurisdictions has identified three distinctly different contexts within which critical investment decision making for new agricultural development tends to occur. These are:

1. De-risking major **new** (water-based) infrastructure projects for irrigation in greenfield landscapes;
2. De-risking through collaborative decisions to increase development investment and productivity in **existing** (water-based) agricultural development schemes; and
3. De-risking the decisions of existing individual property owners or new property purchasers to **intensify/diversify** their production efforts (either inside or outside water schemes).

THE RESEARCH

These three contexts have been explored in all three jurisdictions to understand their relative importance to the current de-risking process on agricultural development across Northern Australia. While at the time of writing, the research findings from three de-risking projects in Queensland, Northern Territory and Western Australia were not publicly available, four common concerns have emerged as the key sources frustration and delay in development approvals and investment.

DE-RISKING THE NORTHERN AUSTRALIAN LANDSCAPE IS ABOUT CLEARLY DEFINING THE WHAT, THE WHERE AND HOW WE CAN PROGRESS SUSTAINABLE AGRICULTURAL DEVELOPMENT WHICH MEETS THE NEEDS AND ASPIRATIONS OF ALL AUSTRALIANS. CREATING AN ENVIRONMENT OF CERTAINTY AND CLEAR POLICY WILL ATTRACT INVESTMENT, CREATE JOBS AND DRIVE THE ECONOMIC PROSPERITY OF THE REGION.

JED MATZ, CRCNA CEO

COMMON CHALLENGES TO DEVELOPING NORTHERN AUSTRALIA

1 BIODIVERSITY & VEGETATION MANAGEMENT

LACK OF POLICY CLARITY ABOUT WHERE AGRICULTURAL DEVELOPMENT WILL BE ACCEPTABLE TO THREE LEVELS OF GOVERNMENT AND THE COMMUNITY.

2 WATER ALLOCATIONS & LICENSING

LACK OF POLICY CLARITY ABOUT WHO BENEFITS FROM WATER ALLOCATION AND WHAT TYPE OF DEVELOPMENT WILL MEET THE NEEDS OF ENVIRONMENTAL FLOWS.

3 LAND TENURE

COMPLEXITY IN TENURE RESOLUTION PROCESSES TO DELIVER INVESTMENT SECURITY.

4 AGRICULTURAL COMMODITY MOVEMENT

LOGISTICAL AND BIOSECURITY COMPLEXITY FRUSTRATES THE MOVEMENT OF AGRICULTURAL PRODUCE WITHIN NORTHERN AUSTRALIA.

WHAT NEXT?

The three de-risking projects are due to deliver their reports in October 2020.

The ideas, issues and solutions discussed within these reports and the outcomes of the various sectoral and supply chains analyses, will inform the CRCNA's inaugural State of the North report, due to be published in November 2020. The CRCNA will also continue to work with the jurisdictions and industry stakeholders to progress the second phase of de-risking work, as part of their 2021/22 research investment pipeline.



PHOTO: CHARLES DARWIN UNIVERSITY, NT.

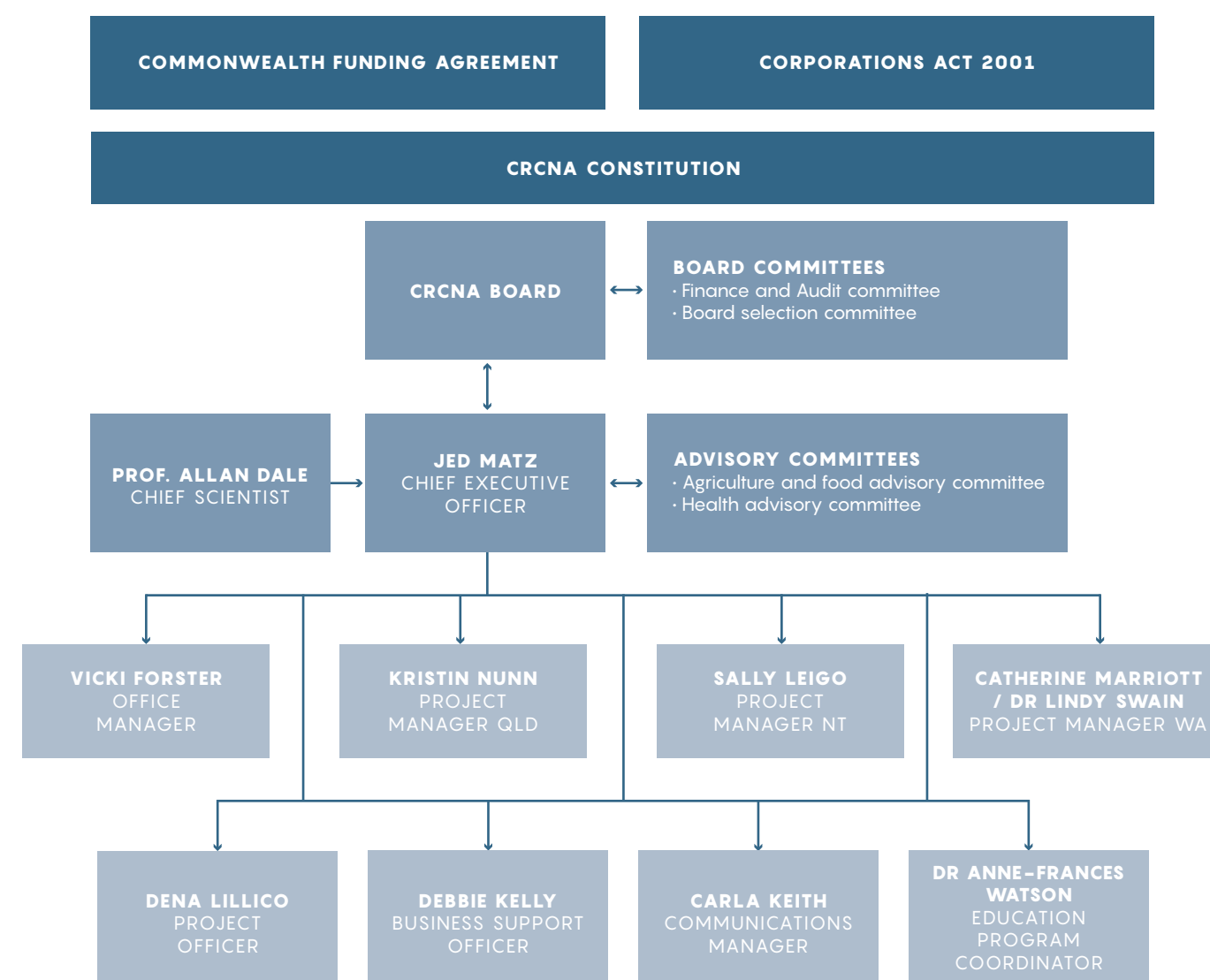
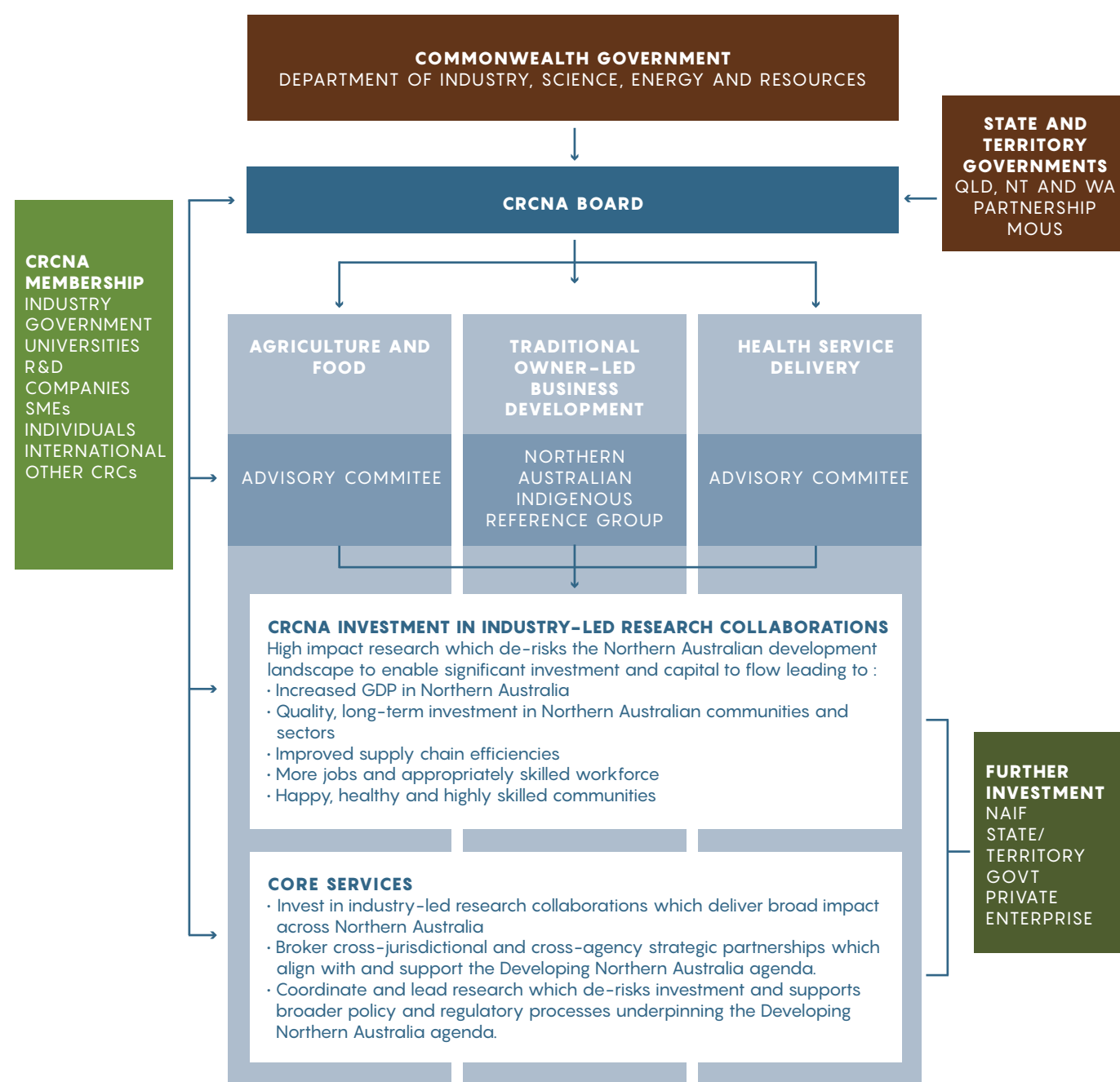
RESEARCH PIPELINE

PROJECTS LISTED HERE HAVE SECURED CRCNA FUNDING BUT ARE YET TO BE CONTRACTED AS AT 30 JUNE 2020.

PROJECT NAME AND DESCRIPTION	CRCNA FUNDING COMMITMENT
Indigenous agriculture situational analysis project will undertake SWOT of current industry and examine future opportunities.	\$150,000
Growing high-value food and fibre exports from Northern Australia develop technical support across a range of crops and products to grow exports from Darwin airport.	\$1,000,000
Nutrient-dense ingredient demand scoping study – Northern Queensland Next Gen food manufacturing will develop product formulations, identify and qualification of end-customer product and the demand for specific ingredients.	\$473,060
Tiwi Island – Maximising northern tropical forestry A community-based enterprise development approach will be used to develop a model for the establishment and growth of tropical forestry plantations across Northern Australia. This model, suitable for application across both Aboriginal and freehold land.	\$990,048
Sugar industry situational analysis – an emerging market, supply chain gap analysis and sector capacity baseline study will be conducted to assist in guiding future investment, and strategy development.	\$250,000
Agriculture and health workforce development strategy - develop a coordinated agriculture and health workforce development strategy for Northern Australia to 2035.	\$300,000
Suitable sugarcane to diversify income and value will evaluate the biomass production from a range of commercial and near commercial varieties and energy canes. These trials will cover production conditions at Mossman and on the Atherton Tablelands in FNQ.	\$579,229 Contracted September 2020

GOVERNANCE

SUGARCANE MOSSMAN, FNQ.
PHOTO: ELEISHA MEALING.



As at 30 June 2020.

CRCNA BOARD

BOARD STRUCTURE AND ELECTIONS

RONALD (RICKY) ARCHER appointed as a Director at Extraordinary General Meeting 25 February 2020

JOHN BEARNE appointed unopposed as Director at Annual General Meeting 20 November 2019

DON MCDONALD appointed unopposed as Director at Annual General Meeting 20 November 2019



CHAIR SHERIDEN MORRIS

BAppSc (Hons) Agronomy/ Horticulture, GAICD

Sheriden is currently the Managing Director and Company Secretary of the Cairns-based non-profit Reef and Rainforest Research Centre (RRRC) and Deputy Chair of Citizens of the Great Barrier Reef.

Sheriden has extensive experience in environmental research and monitoring management, aquaculture development, agricultural science and agronomy in the sugar cane and banana industries of Far North Queensland and served as a Director of Wetland Care Australia and has previously worked with CSIRO and GBRMPA.

Sheriden has also spearheaded the development and implementation of an innovative aid development program on Australia's northern borderlands with Papua New Guinea.

BOARD TERM: 2017–2022



DEPUTY CHAIR DON MCDONALD

AM, OBE

Don is the Chair of MHD Pty Ltd—a family owned beef cattle operation in Cloncurry in north-west Queensland. Don has previously held Board positions with the Australian Agricultural Company Ltd, Queensland Industry Development Corporation, Kidson Gold Mines Ltd, CSIRO, ATEC Rail Group and the Queensland Royal Flying Doctors.

Don is recognised nationally for his commitment to regional issues. In 1988 he was awarded an OBE for his services to the community, in 2001 Don was awarded a Centenary Medal, and then in 2006 he was awarded a Member of the Order of Australia.

BOARD TERM: 2019–2022



PETER LONG

BE (Hons), BA, BSc (EnvSc) CPEng, CEnvP, GAICD, FIEAust

Peter is Mayor of the City of Karratha. A professional engineer and environmental scientist, Peter has instigated and managed a range of businesses in the environmental and engineering fields and has served on several Boards including the West Pilbara Institute, St Luke's College (Chair), Biosequest Australia and Worley Astron (Chair).

BOARD TERM: 2017–2020



JOHN BEARNE

AdvDipEng, FAICD, Registered Builder Qld

John has substantial experience as Chair and Director of numerous commercial and not-for-profit organisations including Townsville Hospital Health Service (Chair), Tropical Health Academic Research Centre (Chair), the Jezzine Barracks Community Trust, the Australian Technical College of North Queensland and Yumba Meta. In 2019, John was appointed as the Project Manager position for the Hells Gate Dam Business Case. He was formerly the President of the Townsville Chamber of Commerce and is a Life Member of Townsville Enterprise Ltd.

BOARD TERM: 2019–2022



RONALD (RICKY) ARCHER

Ricky Archer is a Djungan man from the Western Tablelands region of North Queensland. Ricky has a strong network of on-ground land and sea managers across Northern Australia from which to draw from and has demonstrated an ability to connect on-ground work of Indigenous organisations with regional, state and commonwealth priorities.

He has been actively involved and engaged on the Indigenous Advisory Committee since 2014. He was also a member of the National Landcare Advisory Committee which provided further connections to the work of the Indigenous Advisory Committee. Mr Archer has a background in geographical information systems, Indigenous knowledge management, and natural and cultural resource management.

BOARD TERM: 2020–2021



TRACEY HAYES

GCRngldMan, MAICD

Tracey is a senior leader in business and industry with considerable experience as a Chief Executive Officer, Board Chair, Company Director, Board Member and Proprietor. A strong business professional working at Territory, national and international level including business ownership, Asian trade and engagement, crisis and financial management, public affairs, rural and regional issues, corporate social responsibility and strategic development.

In addition to her role with the CRCNA, Tracey is Chair of the Darwin Waterfront Corporation, a member of the Order of Australia Honours Council, on the board of the Australia Indonesia Institute, and the North Queensland Livestock Industry Recovery Agency.

BOARD TERM: 2017–2020



JOHN WHARTON

Councillor John Wharton AM is Mayor of the Richmond Shire Council. He received a Member of the Order of Australia Award and Centenary Medal for his service to the community of North-West Queensland and local government. He is the Director of his own company, Wharton & Co Pty Ltd and is a registered Real Estate Agent.

John is recognised nationally for his commitment to community service through local government, regional development, natural resource management and primary industry organisations. In 2007 he was awarded a Member of the Order of Australia for his service to the community of north-west Queensland. He also received the Centenary Medal for distinguished service to local government.

BOARD TERM: 2017–2021



PHOTO: CENTRE FOR SUSTAINABLE TROPICAL FISHERIES AND AQUACULTURE, TOWNSVILLE, QLD

BOARD MEMBER MEETING ATTENDANCE

POSITION	NAME	MEETING DATE					
		20/11/19 AGM	21/11/19	10/02/20	26/02/20	15/04/20	03/06/20
Chair	Sheriden Morris	✓	✓	✓	✓	✓	✓
Deputy Chair	Don McDonald	✓	✓	✓	✓	✓	✓
Board member	John Bearne	✓	✓	✓	✓	✓	✓
Board member	Ronald Archer	N/A	✓	X	X	✓	✓
Board member	Peter Long	✓	X	✓	✓	✓	✓
Board member	John Wharton	✓	✓	X	✓	✓	✓
Board member	Tracey Hayes	✓	✓	X	✓	X	✓

FINANCE AND AUDIT COMMITTEE

The role of the Committee is to provide a consultative forum which make recommendations to the Board on:

- the appointment of the auditor (to be voted on by the membership at the AGM)
- the CRCNA’s budget allocations
- financial benchmarks established by the Finance and Audit committee and approved by the Board
- the CRCNA’s response to performance against the financial benchmarks
- any matters having a significant financial impact on the CRCNA
- financial matters relating to the CRCNA’s borrowing program and any contracts in excess of the delegation authority requiring Board approval
- any matters referred to it by the Board.

COMMITTEE MEMBERS AND MEETING ATTENDANCE

POSITION	NAME	MEETING DATE 06/02/20	MEETING DATE 21/05/20
Chair	John Bearne	✓	✓
Committee member	Tracey Hayes	✓	X
Committee member	Peter Long	✓	✓
Committee member	Luke Guazzo	✓	✓

FINANCIAL MANAGEMENT

Financial position: Very strong.

Despite COVID-19 impacting some of our research activities, the CRCNA’s financial position remains very strong. The COVID-19 travel restrictions have delayed many of our participant’s research milestones. The most significant impact has been in projects requiring access to Indigenous communities and health research activities requiring travel or face to face engagement, especially large stakeholder meetings.

We are confident of having identified all projects impacted and have undertaken to negotiate variations outlining new, realistic timeframes for completion of projects.

Overall level of Participant contributions: 100% of all scheduled contracted contributions were received in the 2019-20 financial year.

GOVERNMENT FINANCIAL ASSISTANCE/GRANTS

The CRCNA did not receive any additional Federal Government financial assistance or grants in the 2019/20 financial year. However, we did receive further investment from the Northern Territory Government (\$200,000 p.a.), Queensland Government (\$200,000 p.a.) and the Western Australian Government (\$200,000 p.a.)

CONTRACTS, CONSULTANCIES AND DIRECT SALES — OTHER ACTIVITIES

There were no additional activities undertaken by the CRCNA, outside those specified in the Funding Agreement in the 2019/20 financial year.

CERTIFICATES

The CRCNA maintains the following certificates of currency:

- Association Management Liability

- Business Pak (which includes the \$20,000,000 public liability insurance)
- Corporate Travel
- Professional Indemnity
- NT Workers Compensation
- Workcover Queensland
 - WA Workers Compensation
 - Cyber

GOVERNANCE

Governance and management issues: None experienced in the 2019-20 financial year

Current taxation status: Registered charity

Tax concessions:

- Income tax exemption from 21 July 2017 under Subdivision 50-B of the Income Tax Assessment Act 1997.
- GST concessions from 21 July 2017 under Division 176 of A New Tax System (Goods and Services Tax) Act 1999.
- FBT rebate from 21 July 2017 under section 123E of the Fringe Benefits Tax Assessment Act 1986.



ADVISORY COMMITTEES

AGRICULTURAL ADVISORY COMMITTEE

This Advisory Committee was formed to provide strategic advice to the Board on the CRCNA’s R&D investments relating to agriculture and food. The Committee is advisory only and has no decision-making responsibilities.

ROLE

Provide advice to the Board as required regarding:

- 1. the strategic research focus of the CRCNA on agriculture and food.
- 2. the quality and potential viability of agriculture and food proposals submitted to the Board.
- 3. specific agriculture and food related issues, whole of Committee or individually.

COMPOSITION

The Committee will be chaired by a CRCNA Director as nominated by the CRCNA Board (currently John Wharton).

The Committee includes the Director General (or their nominee) from:

- QLD Government’s Department of Agriculture and Fisheries
- Department of Trade, Business and Innovation – Northern Territory
- WA Department of Primary Industries and Regional Development.

The Board may appoint additional individuals to the Committee at their discretion.

The Board (at their discretion) may also approve additional specialist advice to be drawn in from time to time.

AGRICULTURAL ADVISORY COMMITTEE MEETING ATTENDANCE

Most engagement with the committee occurs via email throughout the year. The committee met once to discuss their review and feedback of the 2019/20 expressions of interest funding call.

POSITION	NAME	MEETING DATE 22/07/19
Chair	John Wharton	✓
Qld Committee Member	Wayne Hall	✓
NT Committee member	Luke Bowen	✓
WA Committee member	Susan Hall	✓

HEALTH ADVISORY COMMITTEE

This Advisory Committee was formed to provide strategic advice to the Board on the CRCNA’s R&D investments relating to northern health service delivery. The Committee is advisory only and has no decision-making responsibilities.

ROLE

- 1. the strategic research focus of the CRCNA on health service delivery.
- 2. the quality and potential viability of northern health service delivery proposals submitted to the Board.
- 3. specific issues, whole of the Committee or individually, related to northern health service delivery and models of care in Northern Australia.

COMPOSITION

The Committee will be chaired by a CRCNA Director as nominated by the CRCNA Board (currently John Bearne).

The Committee includes the Director General (or their nominee) from:

- QLD Health
- Department of Health – Northern Territory
- WA Health.

The Board may appoint additional individuals to the Committee at their discretion.

The Board (at their discretion) may also approve additional specialist advice to be drawn in from time to time.

HEALTH ADVISORY COMMITTEE MEETING ATTENDANCE

Most engagement with the Committee occurs via email throughout the year. The Committee met once to discuss their review and feedback of the 2019/20 expressions of interest funding call.

POSITION	NAME	MEETING DATE 23/07/19
Chair	John Bearne	✓
Qld Committee Member	Kieran Keyes	✓
NT Committee member	Rex O’Rourke	✓
WA Committee member	Neale Fong	✓



SUPPLEMENTARY INFORMATION

- PROJECT PARTICIPANTS
- CRCNA EMBEDDED STUDENTS
- CRCNA ASSOCIATE STUDENTS
- CRCNA STUDENT SCHOLARSHIPS
- PUBLICATIONS

PROJECT PARTICIPANTS

NAME	ABBREVIATION	ABN	ORGANISATION SUBTYPE	NATURE OF COLLABORATION	STATUS
Advance Cairns		27 153 902 759	Economic development / SME small (1-19 employees)	Research	Completed
AEC Group Pty Ltd	AEC	84 087 828 902	SME – Medium (20-199 employees)	Research	New
AgForce Queensland Farmers Ltd	AgForce	57 611 736 700	Industry Association	Research	Continuing
AgriVentis Technologies	AgriVentis Technologies	38 618 614 341	Industry/Private Sector – Large	Research	Continuing
AK Bush & GW Bush	Kennedy Valley Farming	69 605 831 594	SME – Small (1-19 employees)	Research	New
Air Freight Handling Services		46 113 023 662	SME – Medium (20 -199 employees)	Research	Completed
Anindilyakwa Land Council	ALC	45 175 406 445	Indigenous organisation	Research	New
Athair Aquaculture Pty Ltd	Albany Shellfish Hatchery	48 165 741 819	SME – Small (1-19 employees)	Research	New
Australian-ASEAN Chamber of Commerce	AustCham ASEAN	45 175 406 445	International /Private Sector - Small (1-19 employees)	Research	Completed
Australian Barramundi Farmers Association (ABFA)	ABFA	85 251 195 289	Industry Association	Research	Completed
Australian Mango Industry Association	AMIA	50 713 775 301	Industry Association	Research	Continuing
Australian Native Foods and Botanicals	ANFAB	80 123 156 105	Industry Association	Research	Completed
Australian Prawn Farmers Association	APFA	54 238 940 218	Industry Association	Research	Continuing
Branir Pty Ltd & the Trustee for Booloomani Unit Trust – Tipperary Group of Stations	Tipperary Station	89 151 704 147	SME – Small (1-19 employees)	Research	New
Burdekin-Bowen Integrated Floodplain Management Advisory	BBIFMAC	98 107 008 128	Industry/SME Small (1-19 employees)	Research	Continuing
BJM Enterprises Pty Ltd		29 128 878 213	Industry/SME- Small (1-19 employees)	Research	Continuing
Blueshift Pty Ltd		82 112 706 368	Industry/SME Small (1-19 employees)	Research	Completed
Bowen Gumlu Growers Association		35 729 953 455	Industry Association	Research	Completed
BIZ 365 pty Ltd	BIZ 365	93 164 520 450	Individual SME -Small (1-19 employees)	Research	New
B.I.J Pedracini & R.J Pedracini	Prestwood Station	76 142 406 720	Industry/SME -Small (1-19 employees)	Research	New
Cairns and Hinterland Hospital and Health Service on behalf of the Tropical Australian Academic Health Centre		25 285 907 786	State Government	Research	Completed
Cairns Airport		18 132 228 221	SME – Medium (20-199 employees)	Research	Completed
Carnarvon Growers Association		88 305 965 688	Industry Association	Research	Continuing

NAME	ABBREVIATION	ABN	ORGANISATION SUBTYPE	NATURE OF COLLABORATION	STATUS
Cattle Council of Australia	CCA	35 561 267 326	Industry Association	Research	Continuing
Central Queensland University	CQUni	39 181 103 288	University - Australian	Research	Continuing
Centre for Appropriate Technology	CfAT	93 080 271 156	Research Institute/ Organisation	Research	Completed
Centrefarm Aboriginal Horticulture Ltd	Centrefarm	32 101 614 760	Indigenous Organisation	Research	New
Charles Darwin University	CDU	54 093 513 649	University - Australian	Research	Continuing
Civic Ledger Pty Ltd		70 614 926 171	SME – Small sector (1-19 employees)	Research	New
Cravo Australia		93 606 008 584	Industry/SME - Small (1-19 employees)	Research	Continuing
C.O Frith & EA Frith & JO Frith	Glen Arden Cattle Co	57 473 025 852	Industry/ SME – Small (1-19 employees)	Research	New
Commonwealth Science Industry Research Organisation	CSIRO	41687119230	Research Institute/ Organisation	Research	Continuing
Cotton Seed Distributors	CSD	84 000 568 730	Individual SME – small (1-19 employees)	Research	New
Darwin Centre for Bushfire Research	CDU DCBR	54 093 513 649	University - Australian	Research	Completed
DigsFish Services Pty Ltd		64 111 047 780	SME – Small (1-19 employees)	Research	New
Trustee for DWH Unit Trust T/A 7H Horse & Cattle Co	Mainoru Station	72 169 718 778	SME – Small (1-19 employees)	Research	New
Elders Rural Services	Elders	92 061 617 230	Large organisation/ private sector	Research	New
Emama Nguda Aboriginal Corporation	Emama Nguda	29 986 239 351	Indigenous organisation	Research	New
Emerge IT		38 606 238 340	Individual SME – small (1-19 employees)	Research	New
Far Northern Milling Pty Ltd		55 627 502 158	Individual SME	Research	New
Far North Queensland Ports Corporation	Ports North	38 657 722 043	State government	Research	Completed
Far North Queensland Growers	FNQ Growers	46 061 312 738	Industry Association	Research	New
Far North Queensland Regions Organisations of Councils	FNQROC	52 034 736 962	Government - Committee	Research	Completed
LA Foxwell, MM Foxwell, PR Foxwell & RL Foxwell	Foxwell Farming	72 090 299 196	SME- small (1-19 employees)	Research	New
Fry Bloodline Trust		41 537 451 085	Industry/SME - Small (1-19 employees)	Research	New
G Kennedy & IJ Kennedy		13 788 518 036	Other - Community Natural Resource Management Group	Research	New
Girringun Aboriginal Corporation		55 744 388 981	Indigenous organisation	Research	Continuing
Greater Whitsunday Alliance Limited	Gw3	84 087 816 368	Economic Development organisation SME – small (1-19 employees)	Research	Completed
GrowCom		51 090 816 827	Industry Association	Research	Continuing
Griffith University		78 106 094 461	University – Australia	Research	New

NAME	ABBREVIATION	ABN	ORGANISATION SUBTYPE	NATURE OF COLLABORATION	STATUS
Gudjuda Aboriginal Corporation		65 884 273 677	Indigenous organisation	Research	Continuing
Harris Operations Pty Ltd	Strathmore Station	97 158 998 497	Industry SME - Small (1-19 employees)	Research	New
Hiraji Pty Ltd & Ingallana Pty Ltd & Chisholm	Oolloo Farms	26 911 615 894	Industry / SME – small (1-19 employees)	Research	New
Hexcyl Systems Pty Ltd		70 120 261 994	Industry/ SME – small (1-19 employees)	Research	New
Horticulture Innovation Australia Limited		71 602 100 149	Industry Association	Research	Continuing
Indigenous Land and Sea Council	ILSC	59 912 679 254	Federal government agency	Research	Completed
IN-Group Investments Australia		84 795 046 139	Industry/SME Medium (20-199 employees)	Research	Completed
Integria Healthcare (Australia) Pty Ltd	Integria	70 096 496 212	Industry/Private Sector - Large (200+ employees)	Research	Continuing
James Cook University	JCU	46 253 211 955	University - Australian	Research	Continuing
Kenrose Co Pty Ltd	Kenrose	78 131 016 389	Industry/Private Sector - Small (1-19 employees)	Research	New
Kimberley Pilbara Cattlemen's Association	KPCA	66 583 934 522	Industry Association	Research	Completed
Kimberly Land Council Aboriginal Corporation	KLCAC	96 724 252 047	Indigenous organisation	Research	Continuing
Laynhapuy Homelands Aboriginal Corporation		86 695 642 473	Indigenous organisation (Health)	Research	New
The Lakeland Farming Trust	M&M Farming	34 798 488 938	Industry/SME- Small (1-19 employees)	Research	Continuing
Manbulloo Ltd	Manbulloo	16 116 279 899	Industry/SME - Medium (20-199 employees)	Research	Continuing
Marthakal Homeland & Resource Centre Aboriginal Corporation		17 397 988 374	Indigenous organisation	Research	New
Maxima Rock Oyster Company Pty Ltd	Maxima	13 077 397 856	Industry/ SME – Small (1-19 employees)	Research	New
Meat and Livestock Australia Ltd	MLA	39 081 678 364	Industry Association	Research	Completed
Menzies School of Health Research	Menzies	70 413 542 847	Research Institute/ Organisation	Research	Continuing
Maryborough Sugar Factory Pty Ltd	MSF Sugar	11 009 658 708	Industry/Private Sector - Large (200+ employees)	Research	New
Mungalla Aboriginal Corporation	Mungalla	29 209 558 301	Indigenous organisation	Research	Continuing
Murujuga Aboriginal Corporation		51 627 395 274	Indigenous organisation	Research	New
NAJA Business Consulting	NAJA	42 759 221 541	Individual SME – small (1-19 employees)	Research	New
North Australia Indigenous Land and Sea Management Alliance	NAILSMA	80 149 061 174	Indigenous organisation (research)	Research	Continuing
North Queensland Bulk Ports		36 136 880 218	Industry/Private Sector - Large (200+ employees)	Research	Completed
North Regional TAFE		85 116 774 747	Education	Research	Continuing

NAME	ABBREVIATION	ABN	ORGANISATION SUBTYPE	NATURE OF COLLABORATION	STATUS
Northern Land Council	NLC	56 327 515 336	Indigenous organisation	Research	New
Northern Territory Government Department of Environment and Natural Resources	NT DENR	84 085 734 992	Territory Government agency	Research	New
Northern Territory Agricultural Company Pty Ltd	NT Cotton	37 115 675 600	Industry / SME -small (1-19 employees)	Research	New
Northern Livestock & Agriculture Pty Ltd	Ruby Downs Station	11 608 765 073	SME – small (1-19 employees)	Research	New
Northern Territory Cattlemen's Association	NTCA	87 055 308 786	Industry Association	Research	Completed
Northern Territory Government Department of Primary Industries and Resources	NT DPIR	84 085 734 992	Territory government agency	Research	Continuing as NT DITT
Northern Territory Farmers Association	NT Farmers	44 597 157 586	Industry Association	Research	Continuing
Northern Territory Australia – Top End Health Service		84 085 734 992	Territory government agency	Research	New
Northern Gulf Resource Management Group Ltd	NGRMG	94 106 450 355	Industry – public company	Research	New
North Queensland Regional Organisation of Councils	NQROC	49 258 797 162	Government – Committee	Research	Completed
Olive Vale Pastoral Pty Ltd	Olive Vale	30 116 164 419	Industry/SME Small (1-19 employees)	Research	Continuing
OKR Oty Ltd	TRAP Services	18 604 825 621	Industry/SME - Medium (20-199 employees)	Research	Continuing
Passionfruit Australia Incorporated		98 212 907 857	Industry Association	Research	Continuing
Perfection Fresh Australia Pty Ltd	Perfection Fresh	75 127 389 682	Industry/SME Medium (20-199 employees)	Research	Continuing
BIJ Pedracini & RJ Pedracini	Prestwood Station	76 142 406 720	Industry/ SME - small (1-19 employees)	Research	New
Pirrone Brothers Produce		95 339 345 761	Industry/ SME - Small (1-19 employees)	Research	Continuing
Pivotal Point Strategic Directions		69 150 822 496	Individual SME – Small (1-19 employees)	Research	Completed
Pivotal Management Consulting		23 086 826 226	Individual /SME - Small (1-19 employees)	Research	Continuing
Port of Townsville		44 411 774 236	Industry/Private Sector - Large (200+ employees)	Research	Continuing
Premise		82 620 885 832	Industry/SME Medium (20- 199 employees)	Research	Completed
Pricewaterhouse Coopers	PwC	52 780 433 757	Industry/Private Sector - Large (200+employees)	Research	Completed

NAME	ABBREVIATION	ABN	ORGANISATION SUBTYPE	NATURE OF COLLABORATION	STATUS
Puntukurnu Aboriginal Medical Service		49 134 881 272		Research	New
Queensland Department of Agriculture and Fisheries	DAF	66 934 348 189	Government - State	Research	Continuing
Tropical Indigenous Ethnobotany Centre on behalf of Queensland Department of Environment and Science	TIEC DES	46 640 294 485	Government - State	Research	Completed
Queensland Department of Health	Qld Health	66 329 169 412	Government - State	Research	Continuing
Queensland Department of State Development	Qld DSD	29 230 178 530	Government - State	Research	Continuing
Queensland Department of Natural Resources Mines and Energy	DNRME	46 640 294 485	Government – State	Research	New
Queensland University of Technology	QUT	83 791 724 622	University - Australian	Research	Continuing
Queensland Alliance for Agriculture and Food Innovation, The University of Queensland	QAAFI	63 942 912 684	University – Australian	Research	Continuing
Radicle Seeds Pty Ltd	RSA	29 164 892 497	Industry / SME small (1-19 employees)	Research	New
Regional Development Australia MIW	RDA MIW	74 283 115 224	Regional Development Agency – Government	Research	Completed
Regional Development Australia, Northern Territory	RDA NT	17 438 221 797	Regional Development Agency – Government	Research	Continuing
Rice Research Australia Pty Ltd	SunRice	54 003 678 644	Research Institute/ Organisation	Research	Continuing
Rural Clinic School of Western Australia, University of Western Australia	RSCWA	37 882 817 280	University – Australia	Research	New
GC Rickertt & SR Rickertt	Curra Station	64 179 286 010	Industry SME- small (1-19 employees)	Research	New
RLM Foxwell, MPR Foxwell & LA Foxwell		72 090 299 196	Industry/ SME Small (1-19 employees)	Research	Continuing
Rockhampton Regional Council	RRC	59 923 523 766	Government - Local	Research	Continuing
Royal Melbourne Institute of Technology Blockchain Innovation Hub	RMIT	49 781 030 034	University – Australia	Research	Completed
Savannah Ag Research Pty Ltd	Savannah Ag Consulting	69 637 837 033	Industry/SME – Small Sector (1-19 employees)	Research	Continuing
Sugar Research Australia Ltd	SRA	16 163 670 068	Australian Public Company	Research	New
Simbani Integrated Research		16 421 379 263	Industry/ SME – small (1-19 employees)	Research	New

NAME	ABBREVIATION	ABN	ORGANISATION SUBTYPE	NATURE OF COLLABORATION	STATUS
SEAPA		57 084 720 730	Industry / SME -small (1-19 employees)	Research	New
SkyMesh Pty Ltd		38 613 736 137	Individual SME – medium (20-199 employees) Internet service providers	Research	New
ST Strategic Services Pty Ltd		50 635 904 719	Individual SME – Small (1-19 Employees)	Research	Completed
Sunshine Coast University	USC	28 441 859 157	University - Australian	Research	Completed
Synapse Medical Services Australia Pty Ltd	Synapse	53 606 507 322	Individual SME – medium (20-199 employees) Professional Scientific and Technical services	Research	New
The Nature Conservancy Australia Trust		83 243 328 398	Industry/SME - Medium (20- 199 employees)	Research	Continuing
The University of Queensland	UQ	63 942 912 684	University - Australian	Research	Continuing
Timber Queensland	TQ	50 092 686 756	Industry Association	Research	Completed
Townsville Enterprise Limited	TEL	58 053 020 536	Economic development / SME small (1-19 employees)	Research	Completed
Trust Provenance Pty Ltd	T-Prov	41 621 088 579	Industry/SME – Small (1-19 employees)	Research	Continuing
Traditional Homeland Enterprises	T.H.E	60 603 830 799	SME – small (1-19 employees) Indigenous organisation	Research	Continuing
Tropical Pines Pty Ltd		60 058 309 505	Industry/SME – Medium (20-199 employees)	Research	Continuing
University of Southern Queensland	USQ	40 234 732 081	University - Australian	Research	New
VisionFlex Pty Ltd		58 600 815 021	SME – medium (20-199 employees) Professional Scientific and Technical Service	Research	New
WA Dept. of Primary Industries and Regional Development	WA DPIRD	18 951 343 745	Government - State	Research	Continuing
Yagbani Aboriginal Corporation	YAC	43 575 418 203	Indigenous organisation	Research	New
ZAPCO Aquaculture	ZAPCO	90 006 083 674	Industry / SME small (1-19 employees)	Research	New

CRCNA EMBEDDED STUDENTS

NAME	UNIVERSITY	PROJECT	PROGRAM
Eshetu Bobasa	The University of Queensland	AT.2.1718031 Improving the efficiency of Kakadu Plum value chains	PhD
Matheus Carpinelli de Jesus	The University of Queensland	HT.2.1718007 Enabling a Traditional Australian medicinal plants agribusiness	PhD
Laura Coe	The University of Queensland	HT.2.1718007 Enabling a Traditional Australian medicinal plants agribusiness	Honours
Raelene Collins	Menzies School of Health Research	HT.2.1719007 Enabling a Traditional Australian medicinal plants agribusiness	Trainee Lab Technician
Taylah Church	Menzies School of Health Research	HT.2.1719007 Enabling a Traditional Australian medicinal plants agribusiness	Trainee/ Researcher
Dagan Herceg	The University of Sydney	A.7.1920043 Improving Water Markets and Trading through new Digital Technologies	Masters
Sharmin Hasan	The University of Queensland	A.1.1718120 A Situational Analysis for Developing a Rice Industry in Northern Australia	PhD
Amit Khanal	The University of Queensland	A.3.1819007 Mango exports to China	PhD
Zena Rainbird	The University of Queensland	HT.2.1718007 Enabling a Traditional Australian medicinal plants agribusiness	Honours
Ben Rennie	James Cook University	HT.2.1718007 NT Tropical rock oyster research and development project	Masters
Desmond Sim	The University of Queensland	HT.2.1718007 Enabling a Traditional Australian medicinal plants agribusiness	PhD
Muhammad Assad Ullah	The University of Queensland	A.3.1819007 Mango exports to China	PhD

CRCNA ASSOCIATE STUDENTS

NAME	UNIVERSITY	RESEARCH TOPIC	PROGRAM
Anita Chang	CQUni	The remote, autonomous detection of calving and calf loss using on-animal sensing systems	PhD
Laura Roden	CQUni	Can hydrogen peroxide control Phytophthora and confer tolerance to waterlogging in crops?	Masters
Jarrold Guppy	James Cook University	Unravelling the genetic architecture of black tiger prawn (Penaeus monodon) production traits through development and utilisation of novel genome resources	PhD
Joel Johnson	CQUni	Rapid non-invasive analytical techniques for measuring bioactive compounds in Australian crops	Masters
Amy-Louise Byrne	CQUni	Person-centred care in the Nurse Navigator Service; What's in a name?	PhD
Ashley Vines	University of Melbourne	The Capacity for Indonesian Investment in Northern Australian Agriculture	Masters

CRCNA STUDENT SCHOLARSHIPS

NAME	PROGRAM	UNIVERSITY	SCHOLARSHIP
Rebekah Ash	Bachelor of Agricultural Science (Honours)	UQ	AgriFutures Horizon
Indiana Rhind	Bachelor of Engineering (Honours)	USQ	AgriFutures Horizon

PUBLICATIONS

PEER REVIEWED JOURNALS ARTICLES 19/20 FY

J. Meadows , M. Annandale , M. Bristow , R. Jacobsen , L. Ota & S. Read (2020): *Developing Indigenous commercial forestry in northern Australia*, Australian Forestry, DOI:10.1080/00049158.2020.1799518.

SUBMITTED ABSTRACTS 19/20 FY

Arbon P.M., Condon K., Ackery T.J., Jerry. D.R. . (2020) *Prevalence, geographical differences and levels of infection of viral and bacterial pathogens in Australian giant black tiger shrimp, Penaeus monodon broodstock*. Aquaculture: An International Journal. June 2020.

SUBMITTED MANUSCRIPTS 19/20 FY

Edelman A, Grundy J, Larkins S, Topp S, Atkinson D, Patel B, Strivens E, Moodley N, Whittaker M. (2020). *Health service delivery and workforce in northern Australia: a scoping review*. Rural Remote Health [online]. Submitted and under review.

CONFERENCE PAPERS 19/20 FY

Rahman, A., Akbar, D., Rolfe, J.(2019). *Every community wants an airfreight facility: is this a viable regional agricultural supply chain development option for central Queensland in Australia?*

Akbar, D., Rahman, A., Rolfe, J., Kinnear, S., Schrobback, P., Bhattarai, S. (2019). *Working to grow together: horizontal collaboration for horticulture production in Queensland*. ANZRSAl Conference, Cairns 2019.

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Acil Allen Consulting & CRCNA (2020) *Regional agribusiness supply chains: report to Greater Whitsunday Alliance and the CRC for Developing Northern Australia*. CRCNA, Townsville.

Akbar, D., Rahman, A., Roffe, J., Schrobback. P., Kinnear, S., Bhattarai, S. (2019) *Stakeholder collaboration models for exporting perishable commodities in Asia*. CRCNA and Central Queensland University, Townsville.

Australia – ASEAN Chamber of Commerce (AustCham ASEAN), (2020) *Capturing the ASEAN Agricultural Opportunity for Northern Australia*. CRCNA Townsville.

Cao, S., Hine, D., Henry, R., Mitter, N. (2020) *Evaluation of the potential to expand horticultural industries in Northern Australia : Second international (China) Field Study Report*. CRCNA, Townsville.

Cao, S., Hine, D., Henry, R., Mitter, N. (2020) *Evaluation of the potential to expand horticultural industries in Northern Australia : CRCNA Project International market report – South Korea*. CRCNA, Townsville.

Chapman, B., Henry,R., Wurm,P., Bellairs, S., Crayn, D., Smyth, H., Furtado, A., Sivapalan, S., Ford, R. & Matchett, T. (2020) *A situational analysis for developing a rice industry in Northern Australia*. CRCNA, Townsville.

Chilcott, C., Ash A., Lehnert ,S., Stokes, C., Charmley, E., Collins, K., Pavey. C., Macintosh, A., Simpson, A., Berglas, R., White, E., & Amity, M. (2020) *Northern Australian beef situation analysis : A report to the Cooperative Research Centre for Developing Northern Australia*. CRCNA, Townsville.

Cobcroft,J., Bell,R., Fitzgerald, J.,Diedric,A., Jerry, D (2020). *Northern Australia aquaculture industry situational analysis*. CRCNA, Townsville.

Edelman, A., Grundy, J., Moodley, N., Larkins, S., Topp, SM., Atkinson, D., Patel, B., Strivens, E., Whittaker, M. (2020) *Northern Australia health service delivery situational analysis*. CRCNA, Townsville.

KPMG Australia, Advance Cairns (2020) *Export 2030 – delivering fresh food fast : the opportunity to double high-value food exports from Far North Queensland*. CRCNA, Townsville.

KPMG Australia, Premise, AEC (2019) *North Queensland market and agricultural supply chain study*. CRCNA, Townsville.

Marshall, A., Dezuanni, M., Wockner, K., Babacan, H., Burgess, J., Crawford, F., Foth, M., Gregory, R., Mitchell, P., Neale, T., Rogers, S., Wallace, R. (2020) *Northern Australia Communications Analysis*. CRCNA, Townsville.

Maclean, K., Woodward, E., Jarvis, D., Rowland, D., Rist, P., Turpin, G., Martin, P. and Glover, R. (2019). *A Strategic Sector Development and Research Priority Framework for the Traditional Ownerled Bush Products Sector in northern Australia*. CSIRO, Australia.

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Trotter, T., Bhattarai, S., & Thomson, M. (2020) *Summer spice technical report – black sesame*. CRCNA and Central Queensland University, Townsville.

Rahman, A., Akbar, D., Timilsina, S., Trotter, T., Thomson, M., Bhattarai, S. (2020) *Market analysis of caraway seed*. CRCNA and Central Queensland University, Townsville.

Rahman, A., Akbar, D., Bhattarai, S., Trotter, T., Thomson, M., Timilsina, S. (2020) *Market analysis of kalonji*. CRCNA and Central Queensland University, Townsville.

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Rahman, A., Akbar, D., Timilsina, S., Trotter, T., Thomson, M., Bhattarai, S., (2020) *Market analysis of fennel seed*. CRCNA and Central Queensland University, Townsville.

Rahman,A., Bhattarai, S., Akbar, D., Thomson,M. (2020) *Market analysis of sesame seed*. CRCNA and Central Queensland University, Townsville.

ST Strategic Services & Pivotal Point Strategic Directions (2020). *Northern Australian broadacre cropping situational analysis*. CRCNA, Townsville.

Stephens, M., Woods,I., Brandt, C., Bristow, M., Annandale, M (2020). *Northern forestry and forest products industry situational analysis*. CRCNA, Townsville.

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Babacan, H., Tremblay, P (2020) *Reframing smart supply chains in Northern Australia*. CRCNA, Townsville.

Dale, A., Keith, C., Matz, J., MacLean, B (2020) *Securing outcomes and measuring progress: A preliminary report into agricultural development and tropical health servicing in Northern Australia*. CRCNA, Townsville.

INVITED PRESENTATIONS 19/20 FY

Dale, A (2019) *Building stronger Traditional Owner-led enterprise*. Indigenous Reference Council, Cairns. July 2019.

Philbey, L (2019) *Growing Northern Australia’s broadacre cropping industry*. Summer Grains Conference, Gold Coast. July 2019.

Dale, A (2019) *Towards a strong policy framework for Northern Australia*. TropAg Conferene, Brisbane. November 2019.

Dale, A (2019). *New policy directions for Northern Australia*. Key note address ANZARSAI Conference, Cairns. December 2019.

Matz, J. (2019) *Collaborative partnerships to grow the north*. Developing Northern Australia Conference, Karratha. July 2019.

Matz, J. (2019) *Collaborative partnerships to grow the north*. Australian Rangelands Conference, Canberra. September 2019.

CRCNA MEDIA RELEASES

2 JULY 2019	Study to examine Northern Australia’s agricultural supply chains	12 FEBRUARY 2020	Securing outcomes and measuring progress: Discussion paper tracks CRCNA progress
5 AUGUST 2019	Study to map new agricultural export market opportunities for FNQ	26 FEBRUARY 2020	Diversification key to future success for Mackay, Isaac, Whitsunday agricultural producers
11 AUGUST 2019	Study to spice up northern Australia	27 FEBRUARY 2020	Director endorsed for CRCNA Board
20 AUGUST 2019	New projects tap the pulse of northern Australia	28 FEBRUARY 2020	NT and Qld project managers to swap roles
5 SEPTEMBER 2019	CRCNA Austrade partner up to find new investors for northern Australia	6 MARCH 2020	Greening the Northern Australia landscape with broadacre cropping
8 OCTOBER 2019	Protected cropping to boost north’s high-value produce	8 MARCH 2020	More work to do to attract quality agricultural investment in Northern Australia
14 OCTOBER 2019	CRCNA gears up for TropAg Conference	8 APRIL 2020	Global spice boom – an opportunity for new ag exports
30 OCTOBER 2019	New project identifies best bets for ASEAN exports	9 APRIL 2020	CRCNA backs ag students for prestigious scholarship
6 NOVEMBER 2019	Project to grow north’s Tropical Rock Oyster industry	30 APRIL 2020	Northern Australian forestry industry could treble production value within next decade
11 DECEMBER 2019	Blockchain technology delivers sweet success for Northern Australian mango producer	29 MAY 2020	Aquaculture industry set to be a boon for North’s economy
19 DECEMBER 2019	Collaboration to pave way for new Top End agricultural development	13 MAY 2020	Pilot project taps into new digital water trading opportunities for FNQ irrigators
19 DECEMBER 2019	Northern Australian aquaculture project to discuss findings at CQ workshop	7 MAY 2020	New Black Lip Rock Oyster perfect fit for tropics
5 FEBRUARY 2020	Northern Australian aquaculture project to discuss findings at CQ workshop	11 JUNE 2020	Plan to double FNQ’s high-value food exports by 2030





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