

**BN**

**BUSINESS NEWS**  
WESTERN AUSTRALIA

# Agribusiness

## SPECIAL REPORT





**POTENTIAL:** Alterra chief operating and technical officer Brett Heather (left) and Oliver Barnes inspect a young avocado sapling near Pemberton. **Photo:** Alterra

# Agriculture emerges as safe haven

Institutional investor interest is continuing to grow in WA's agricultural sector, unaffected by the global uncertainty of the novel coronavirus crisis.



## 9-PAGE FEATURE

**F**EAR of COVID-19 and the unprecedented upheaval this has generated across all sectors of the economy have solidified the importance of Western Australia's agricultural operations, making them perhaps the most essential of all industries.

Agribusinesses' collective ability to withstand a short burst of panic-buying and maintain normal stock levels in shops across the state thankfully pushed food security far down

the list of concerns arising due to the global health crisis.

WA Farmers Federation president Rhys Turton said while it was fortunate that WA produced more food than its citizens could consume, the state's supply chains had avoided significant disruption in large part thanks to the establishment last year of the WA Food Alliance.

The alliance was originally designed to help the industry gain credibility in its social licence, but Mr Turton said it was particularly helpful to be able to bring together the state's major players during the COVID-19 crisis.

"It was quite advantageous that the group existed when the coronavirus hit, because we were able to pull together pretty well and say to the community: 'We have a great range of food, it is safe and we can get it to you, there is no need to hoard, we can supply what you need when you need it,'" Mr Turton told *Business News*.

"We were also able to pull together a job site for jobseekers and try and match them to prospective employers in agriculture.

"Because agriculture is always so seasonal, it is inevitably looking for a workforce at certain times of the year. At the moment, with the broadacre grain farmers kicking off their planting programs and the usual horticulture and fishing demand, Food Alliance was able to match jobseekers with some employers.

"Primary production as a whole has pulled together really well through this pandemic and we are reassuring the community that we are here, it is business as usual, we are doing what we do best."

Mr Turton said the performance of agribusinesses under considerable pressure also highlighted the sector's strength of investment potential.

He said bulk commodity exports such as wheat and barley were largely continuing as

normal, while high-end branded products such as meat and seafood (see page 22) were taking the most damage.

Prior to the COVID-19 crisis, WA farmers were collectively confident, displaying a bigger appetite for investment than their eastern states counterparts, according to a Rabobank Rural Confidence Survey released late last year.

At the time, Rabobank said 26 per cent of WA farmers surveyed were keen on investing in their farm business in 2020, a higher percentage than any other Australian state.

The market analyst's first survey for 2020, released in

March, displayed similar confidence, with a third of farmers expecting conditions to improve on the prior year.

Australian farm fundamentals have attracted significant investor interest in the past half-decade, highlighted by Gina Rinehart's estimated \$1 billion-plus expansion into agriculture across the country, including the acquisition of five cattle stations in the north of the state.

Fellow iron ore magnate Andrew Forrest has also been spending tens of millions on WA agricultural assets, with his Harvest Road Group evolving into a premium cattle, horticulture and aquaculture operation.

More recently, ASX-listed property syndicator Primewest announced its intentions to broaden its asset base into the agricultural sector, acquiring a vineyard in the South West and an irrigation property near the NSW-Victoria border.

**300ha**  
**CARPENTER'S PROJECT**  
**PEMBERTON AVOCADO**  
**ORCHARD**

Mr Turton said national and international institutional investors were making major plays as well, with the Saudi Agricultural and Livestock Investment Company's \$60 million purchase last year of grain farmer John Niccolletti's Baladje aggregation a prominent example.

"Farmland as a short- and long-term investment has been tracking pretty well," he said.

"What's happening is you are seeing an aggregation of farmland, neighbours are buying neighbours out and are getting bigger, and it's got to the point where some of those aggregations are becoming attractive to the corporates.

"They can do more aggregation and get more economies of scale and extract better value from the land.

"So you're seeing a rise in farmland from big family farmers buying neighbours and the corporates then combining them further."

Mr Turton said it remained difficult to buy into WA agricultural assets, which historically had increased in value by around 5 per cent to 7 per cent per year.

## "In times of crisis like these, people retreat to real assets with strong fundamentals" - Oliver Barnes

"Just in the last couple of years that return has increased quite significantly," he said.

"I think it's probably due to higher commodity prices generally, higher grain prices and higher meat prices.

"In terms of smaller and medium farmers trying to expand, that has become more difficult, and I think that's where you're seeing a decline in smaller farms and the growth of bigger aggregations.

"Institutions can get great economies of scale and good returns, and I think it's attractive in turn for their investors to invest in their funds to put into agriculture.

"Agriculture is still subject to seasonal variations and the massive drought on the east coast has had a huge impact for a few years, so it still carries a degree

of risk in terms of investment, but it is a calculated risk and sitting behind that is usually a pretty good asset base."

The managing director of investment company Alterra, Oliver Barnes, shared the view that demand for good agricultural assets in WA was likely to grow in coming years, continuing the long-running theme of increasing quantities of institutional capital looking to participate in the asset class.

Mr Barnes said investors sought land or water-backed assets with stable, long-term income streams, but in contrast to the growing demand there was a shortage of buying opportunities.

"In times of crisis like these, people retreat to real assets with strong fundamentals," Mr Barnes told *Business News*.

"There may be a short-term disruption now, but institutional investors generally take a long term outlook – up to 75 years – and there has been a surge of additional activity from sophisticated investors looking to construct a wide and varied portfolio.

"They consider it to be a great asset class; if it's a good asset in a great location with great management, investors will pay a premium for it."

Mr Barnes said institutional capital provided a great boost for rural economies as agriculture continued to evolve as an asset class.

"There's a real economic and social uplift from this sort of investment, and it also generates a significant amount of export dollars," he said.

ASX-listed Alterra's latest venture is to create a 300-hectare avocado orchard in partnership with local farming venture Casotti Group and avocado

growing, packing and exporting firm French's Group.

Known as the Carpenter's Project, Alterra's ambition is to create an operation that will ultimately represent about 10 per cent of the total planted hectares of avocado orchards in the state.

Mr Barnes said the Carpenter's orchard was a good indication of Alterra's business strategy.

"What we do is acquire and grow assets to a level where institutions can operate; we are building assets for the next generation," he said.

"Provenance helps, and environmental impact is something investors are looking for."

"We can generate property-like returns with a strong environmental, social and governance impact."

"WA is similar to what California was 30 to 40 years ago, and we can pull in all the learnings and developments from California over that time."

**BNiQ** .com.au  Alterra



There are **62** results from our index of **102,622** articles, **10,137** companies and **38,279** people



Department of Primary Industries and Regional Development

# The new look of agri-innovation

The first phase of Transform Peel, Peel Business Park in Nambeelup sees agriculture, technology and business come together with strong support from Government and Industry.

Strategically located with good access to major ports, roads and airports, Peel Business Park in Nambeelup caters for agri-food and agri-processing operators, ancillary light, general transport and logistic industries, as well as commercial, retail, training, and R&D facilities.

Two lots remain in DevelopmentWA's Stage 1 which is powered by Australia's largest Renewable Energy Industrial Microgrid.

The Agri-Innovation Precinct in Stage 1 developed by the Shire of Murray is designed for a broad mix of uses including but not limited to:

- Science laboratories
- Food product research
- Cold and dry storage facilities
- Offices, co-working spaces and cafés

To secure your place in the business park, or to discover more opportunities, visit [developmentwa.com.au/peel](http://developmentwa.com.au/peel)

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Industrial Lands Authority

Shaping our State's future

**DevelopmentWA**



**RESPONSIBILITY:** David Carter says he felt an obligation to the broader community to keep Austral's boats operating throughout the novel coronavirus

# Casting a line in the COVID crisis

The state's premium fishing operations are scrambling to adapt in an industry that no longer has a clear path to market.

## Dan Wilkie

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AS many premium food businesses across the country shut up shop due to COVID-19, Austral Fisheries made the contrary decision to send its banana prawn and toothfish fleets out to sea.

Austral chief executive David Carter said not only were the risks of exposing his crews to the novel coronavirus outbreak weighing on his mind, there was also considerable doubt as to whether the company would be able to sell its catch when the fleet returned.

"We don't know if there will be a market," Mr Carter told *Business News*.

"We went through a process of saying 'How do we weigh the risk here?'

"There is a new measure of risk associated with putting people on boats in a fishery, and we had to ask if we needed to be doing it.

"I took the view at the time that I think we have kind of a higher calling.

"We feel a sense of gratitude to our crews, and businesses that find themselves in this position owe it to the broader economy and the broader community to do what they can."

The biggest challenge in sending out the boats, Mr Carter said, was managing a quarantine period for the 180 crew members sent out to operate the 15-boat fleet.

Austral's toothfish fleet operates out of Mauritius, with the fishing crews isolated for 14 days prior to getting onto the boat to ensure none of them were infected.

The banana prawn boats are based in Cairns with a similar strategy – isolate crews for the COVID-19 incubation period prior to allowing them to step onto the boats.

Mr Carter said the decision to send out 180 crew members and 15 boats, the company's full banana prawn and toothfish fishing fleet, was made not only with the interests of Austral employees in mind, but also to benefit the broader community.

"I tell folks that it was like living in a remake of Indiana Jones, with Harrison Ford racing out of some tomb with his booty and the world's collapsing behind him, one trip, one fall, one step short of being engulfed by a raging fire, or a surging flood or a rolling boulder," he said.

"That's how it felt; a week's difference in timing and we would have had a very different outcome.

"The better outcome is that these guys get to go to sea, get to make an income, support their families and get to have some kind of normalcy, and Australia gets to have access to some super high-quality marine protein.

"That speaks to the broader self-sufficiency of the country that Australian farmers have

been pretty effective in reinforcing over the last couple of weeks."

For the Geraldton Fishermen's Co-operative, the rapid spread of COVID-19 throughout China's Hubei Province immediately answered the question of whether there would be a market for the western rock lobster catch, Australia's biggest and most valuable fishery.

Unfortunately for the industry's fishers, however, the answer was no, with orders from China grinding to a halt in the last week of January.

Co-operative chief executive Matt Rutter said the situation escalated quickly around Chinese New Year, which landed on the Australia Day weekend in 2020.

"We'd seen news reports out since December around this

**90%**  
PROPORTION OF  
LOBSTER CATCH  
EXPORTED LIVE TO  
CHINA

**“ The better outcome is that these guys get to go to sea, get to make an income, support their families and get to have some kind of normalcy** - David Carter

week leading up to Chinese New Year," Mr Rutter told *Business News*.

"Towards the Wednesday of that week there was increased nervousness from our buyers and on the Thursday we started to get a smattering of cancellations.

"We had to make the decision that night that we were going to have to stop deliveries from our fishers, because the buyers were cancelling orders and we were starting to hear rumours of China basically going into lockdown."

Mr Rutter said at that stage there was still no clear indication that the COVID-19 outbreak was about to become a global issue.

"We were thinking how unlucky we were that our main market had gone into lockdown," he said.

"Then three weeks later we started to see some spurts of demand come back, some opportunistic buying from some of our buyers who were buying and storing and had some small interest, and demand for home deliveries and those sorts of things.

"But as that was picking up into February, the rest of the world was falling into a hole.

"Airlines around the world were being grounded and borders were being shut, and pretty quickly it shifted from a market issue to being a logistics issue."

Mr Rutter said more than 90 per cent of the western rock lobster catch was exported live to China each year, mostly in the cargo hold of passenger flights.

Without those flights, options of getting live lobsters to market were few and far between.

Mr Rutter said the co-op had been exporting opportunistically since February, getting lobsters on the last passenger flights available and also getting freight onto medical supplies flights as they returned to China.

Domestically, Mr Rutter said the co-op had been facilitating home deliveries for household consumption, with the country's restaurant sector shut down and unable to take up the volumes of lobsters available.

A federal government initiative to boost the industry was unveiled last week, facilitating the export of 500 tonnes of lobsters to China, or around 7.5 per cent of a typical annual catch.

Mr Rutter said the arrangement, with the government underwriting the cost of freight, gave certainty to fishers for at least two months, but fell short of returning the industry to business as usual.

"We have to basically take a financial position in a plane before we have got certainty of making sales, so it is a very complex problem so having this government support and just taking the edge off the cost and financial risk for us is a huge help," Mr Rutter said.

"It certainly hasn't alleviated all of the issues and we are still paying a premium for our freight, probably twice what we normally would pay, but it's better than what it was."

"Probably about 30 per cent of the fleet is out at the moment, but we are seeing that gradually increase now."

"Even though the prices are not necessarily massive, the fishers are increasingly needing to go out for cash flow and those sorts of things."

crisis. Photo: Austral Fisheries

mystery virus in Wuhan and then we started to see the press around it increase during the

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# LEADERS IN AG INNOVATION

For more than 100 years, CSBP Fertilisers has been supporting the development of Western Australian growers and rural communities with a commitment to discovering new and better ways of doing things.

The company has been conducting research and replicated field trials since 1923, to better understand the state's conditions, soils, and fertiliser needs. This long tradition of field research has seen it provide agronomic expertise and strictly facts-based nutritional advice to five generations of WA growers.

## Backed by science

The Field Research program which forms the basis of CSBP's scientific approach to soil and nutrition, continues to be as important today as it was when it commenced in 1923. Changing farming practices, improved varieties and new crop species mean CSBP is constantly testing and validating new products and practices to help growers continue to produce the high-quality food and fibre Australia is known for.

Trials establish nutritional drivers, demonstrate the importance of balanced nutrition, and show the impact fertiliser usage can have on crop and pasture profitability. For customers and partners this means best practice and environmentally sound advice, proven high-quality products and locally developed and tested nutritional management solutions.

CSBP's trials database contains over 2,000 trials and covers a range of topics. Using state-of-the-art trial equipment and the latest Agtech, allows CSBP to investigate challenging topics in a range of soil conditions and geographical locations.

## Taking field research to the North West – A collaboration in Pardoo

Collaborating in the design and delivery of trials programs often leads to the development of more efficient products and fertiliser solutions that are practical, sustainable and easy to adopt.

One such collaboration with Pardoo Beef Corporation resulted in a pioneering nutrient response trial in north west WA which has uncovered optimal fertiliser use for profitable and sustainable fodder production in low-rainfall areas.

*"We're finding out amazing things about optimal fertiliser use, productivity and profitability, as well as the long-term sustainability of using this method of farming in low-rainfall areas,"* said Garan Peirce, CSBP District Manager and Agronomist.

The CSBP soil and plant testing model for tropical grasses is based on 5,000 data points established throughout the trial, giving irrigators a quality-assured system for maintaining and improving productivity.

*"We want to make sure that everyone is profitable and that they are growing their cattle as quickly as possible to get them to market,"* said Craig Burton, CSBP Sales Manager.

Pardoo Station and neighbouring irrigation projects have since adopted the strategy, significantly increasing their production, profitability and sustainability.

## Agtech innovation

CSBP's dedicated innovation team focuses on developing new products and services that have the potential to solve key challenges facing the industry.

**"We believe innovation is key to developing environmentally sustainable products and new AgTech services, and generating growth and employment in our regional communities,"**

- Graham Murray,  
CSBP Agtech Services Lead.

decisions that extend beyond the traditional nutrient requirement factors which influence the effective use of CSBP products.

## Tank telemetry

For many, agriculture has become a major logistics operation, and making sure the right product, equipment and staff are in the right place at the right time has its challenges. In a bid to alleviate this problem, CSBP is in its second season piloting a semi-automated system across the state aimed at improving Flexi-N management and supply using Telstra's Internet of Things (IoT) tank sensors.

## Pasture measurement

CSBP is comparing traditional pasture measurement methods such as plate cuts and mowers to newer technologies such as drones which use Normalised Difference Vegetative Index (NDVI) imagery to calculate dry matter; and an Automatic Pasture Reader, which is a device mounted to the front of an ATV that uses ultrasonic pulses to measure biomass and convert it to dry matter.

Existing and current data as well as existing modelling techniques and machine learning is used to develop a range of testing models that support on farm management



## Weather stations

On-farm weather stations have the potential to provide farmers with more accurate and relevant information to make decisions on a range of farming operations such as spraying and fertiliser applications. A station using Telstra's IoT technology was showcased at last year's Dowerin Field Days and can capture temperature, humidity, pressure, wind speed and direction, solar radiation and rainfall and display these to the grower in real time.

CSBP's Field Research Manager Justin Mercy, said Telstra's environmental sensor was the key to providing a compact solution.

*"There are so many data collecting devices available on the market and it can be very overwhelming for a grower, particularly if the data is scattered over numerous platforms. This device allows data from a number of devices to be consolidated into one platform which can be easily accessed,"* he said.

*"The next phase is to refine this data so it can be presented to the grower in a meaningful way to increase the efficiencies of their farming practices. CSBP is currently working on a number of projects to combine both the hardware and networking power of the Captis Environmental Logger with decision making models that will make the data useful for the grower."*

## In-field, real-time plant testing

Following grower feedback on the need for real-time nutrient status insights, especially nitrogen, CSBP will pilot a hand-held near-infrared spectrometer for in-field, real-time plant testing this year, after extensive field testing across WA and the East Coast.

Having this information on-hand reduces uncertainty of nitrogen application and allows growers to align fertiliser applications with seasonal conditions, upcoming rainfall events and other activities like fungicide spraying.

The device eliminates the need to upload large quantities of data to the cloud or complicated software to process imagery.

CSBP has been conducting extensive field trials and lab testing to evaluate various technologies. This in turn reduces the need for growers to spend as much time and effort dealing with a broad range of technologies and Agtech companies to find the one that works as intended.

*"We have sought grower feedback on the outputs from the solution developed to date and will continue to do so to ensure that it will help growers optimise their economic potential from fertiliser applications,"* said Douglas Hamilton, Senior Digital Agricultural Specialist.

*"It's not about trying to make a problem fit a generic solution, or using tech for tech's sake. This project is about understanding a problem growers face, evaluating the current options and building a fit for purpose solution that doesn't complicate farming operations."*

## Making the most of on-farm data

CSBP's expanding suite of nutritional planning and management tools such as DecipherAg and NULogic assist growers in increasing their yield, optimising their profit and ensuring the sustainability of their businesses throughout the year.

DecipherAg provides powerful functionality and insights, identifying paddock variability using satellite imagery, NDVI and Normalised Difference Red Edge (NDRE). It allows growers to monitor production throughout the year, compare growth performance, track trends and organise information.

Pre-planned or ad-hock sample geo-coordinates can be recorded against sample information and lodged for analysis on the mobile app. The app also allows the user to view notes, NDVI satellite imagery and more.

NULogic Soil and Plant Analysis provides practical information that growers can use to manage farm nutrition. Combining decades of trials data and local knowledge, it provides a comprehensive agronomic and economic analysis of nutrient levels and fertiliser recommendations matched to soil type, crop type and target yields, helping growers maximise nutrient efficiency.

# CSBP RESEARCH RESULTS WEBSITE

CSBP's recently launched Research and Agronomy website showcases its field research from the 2017, 2018 and 2019 seasons.

Easily accessible on any device, growers can view relevant trial information while in the paddock throughout the growing season, allowing for more informed, effective and timely nutrient decisions.

Sharing results online in a user-friendly way, instead of traditional print and distribution, is not only beneficial for growers but leads to increased collaboration with universities, government organisations, research institutes, peer companies and industry partners to push the boundaries of agronomy and shape the future of agriculture.

CSBP Senior Agronomist, Luke Dawson added, *"We've been part of the agricultural industry for well over 100 years, and to continue to add value to the industry, sharing research in a collaborative way means we will get better, more varied feedback that will help us continue to improve our research. Being part of a good, sustainable industry – it's about giving back but also improving the industry."*

You can explore CSBP's research results at  
**csbresults.com.au**

**RESEARCH +  
AGRONOMY**

# Food producers' labour squeeze

Dan Wilkie

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SECURING workers has become a major concern for food producers across Western Australia, with restrictions on movement and border closures affecting their ability to find temporary staff.

International travellers make up the bulk of a highly mobile and transitional agricultural workforce in WA, and with borders shut and regional travel locked down, concerns are rising that labour may not be readily available over the next 12 months.

Earlier this month, the federal government made several temporary changes to its agricultural visa programs, allowing farm-based backpackers to remain in Australia for the duration of the pandemic.

The changes, applying to the Seasonal Worker Program and Pacific Labour Scheme workers, included an exemption from a previous requirement that backpackers only work with an individual employer for six months, allowing for stays to be extended for up to 12 months.



**FLUX:** Many jobs in WA's food production chains, from picking to packing, are filled by temporary overseas workers. **Photo:** Attila Csaszar

Even with those changes, Western Australian Farmers Federation chief executive Trevor Whittington told a

recent *Business News* leadership round-table it was becoming difficult to source skilled workers in particular.

"For most of our guys who may now want to find labour, there has been a mad scramble when their New Zealanders or their regular overseas skilled tractor drivers have not been able to come in," Mr Whittington said.

"So people have been racing around to find some replacement labour."

Mr Whittington said he expected around 20,000 positions would need to be filled over the next year in WA horticulture.

"Some of them will be hard to fill because the Asian kids who usually would come in for the English language courses aren't here," he said.

Member for North West Central Vince Catania acknowledged the importance of the temporary changes, but said he remained concerned in regards to Prime Minister Scott Morrison's early April statement that backpackers without a job should go home.

Mr Catania said he was particularly worried by the prospect there may not be a workforce available for WA food producers in around six to eight weeks' time.

"Recent regional border closures preventing travel has resulted in a number of international backpackers being in Carnarvon and other regional towns without work for the next few weeks and with limited funds," he said.

"Unable to travel within WA, many are not in a position to be able to return to their home countries due to limited or no flight availability, or a need to preserve

**“** **Unable to travel within WA, many [backpackers] are not in a position to be able to return to their home countries**

**- Vince Catania**

the safety of their health and delay returning to their countries due to dire COVID-19 situations.

"Given that rigid travel restrictions and social distancing requirements may be in place for at least six months, impacting small businesses, tourism and the ability for food producers to be able to source workers required to harvest winter crops, it is essential that as a region and a town we plan to remain as sustainable as possible within the realms of what we have today in terms of resources."

Mr Catania urged the federal government to consider extending all visas to include an ability to work in other industries until seasonal work became available, and to evaluate the possibility of subsidies for those who provide accommodation for backpackers experiencing financial stress while waiting for job opportunities.

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# Lifelong pursuit of productivity

Improving the potential of WA's nutrient-depleted soils has been a career-defining passion for John Howieson.

**Ben Pattison**

ben.pattison@businessnews.com.au

WHAT if a crop could make infertile soils productive and then finish as a nutrient-rich, profitable feeding option for livestock?

For many farmers across Western Australia, such a crop would be a valuable addition to their business toolkit, which is one reason John Howieson has spent the better part of 25 years researching such a cultivar.

Professor Howieson, from Murdoch University's Centre for Rhizobium Studies, has spent much of his career focused on identifying ways to enrich the sandy, infertile soils of the Wheatbelt. At other times his work has taken him to Africa (on the behalf of the Bill Gates Foundation) and Christmas Island.

Central to his research has been the microbial relationships that determine whether crops fail or thrive, and Professor Howieson has been influential in leading some significant developments.

The foundation of Professor Howieson's research is harnessing control of the relationship between rhizobium (root nodule bacteria) and flowering plants such as legumes.

After testing thousands of varieties and combinations of rhizobium and legume, Professor Howieson discovered rhizobial symbiosis could occur with a peculiar breed of wild South African legume genus called Lebeckia.

The resulting rhizobial nitrogen fixation (emission of naturally produced nitrogen into the soil) was so successful that trials began across various Wheatbelt



**MONEY:** John Howieson says accessing timely funding is often a problem for ag researchers.

locations about a decade ago, and CSIRO modelling was undertaken.

What eventuated next was part luck and part design: not only did the Lebeckia legume increase the soil's fertility, it proved to be a value-adding feedstock for sheep.

CSIRO modelling on the effectiveness of the Lebeckia and serradella legume varieties assessed that sheep farmers could be up to \$400 per hectare better off, with animals' weight increase being a key factor.

Prior to industrially produced nitrogen fertilisers, WA was plagued by inconsistent, unreliable yields due to poor soil and harsh climate. Even with synthetic fertilisers becoming available, their expense meant profitability was often an issue.

The other downside to synthetic fertilisers is that their manufacture requires production of a significant amount of greenhouse gasses. Hence, a natural alternative has always been preferable.

Therefore, the ability to combine soil-regeneration and feedstock expenses into one activity was a welcome development.

**“ A dedicated, independent institute would help in fast-tracking what is essentially a lifelong game** - John Howieson

While some farmers have been quick to adopt Lebeckia and serradella, others have been less enthusiastic.

"It's a combination of them being too busy and too risk averse," Professor Howieson told *Business News*.

"But that's okay; we've had about 5 million hectares adopted in WA over the past 25 years and more will come."

Not content to limit the scope of his research to the Wheatbelt, Professor Howieson remains optimistic his work has the capacity to extend into other regions indefinitely.

"Our work on Lebeckia was so blue sky that no-one would originally fund it. So we did it in our spare time and with our students," he said.

Other regions such as the Kimberley or Pilbara, or over the border in the Northern Territory

"Here in WA we are undoubtedly the world leaders in rhizobium studies," he said.

"However, a dedicated, independent institute would help in fast-tracking what is essentially a lifelong game."

"Our agriculture minister [Alannah MacTiernan] is actually very receptive of the importance of our work here at Murdoch and she is one person who could definitely take the lead here."

Professor Howieson's other endeavours include the regeneration of Christmas Island's phosphorous-overloaded interiors, where he has overseen teams turning old phosphate mines into rich, crop-producing groves.

Presently, there's great yield potential with dozens of staple crop varieties all growing well in pastures that have been laden with a specially curated rhizome.

The findings are well timed to aid in transitioning the local economy to an agribusiness focus and leader in sub-tropical farming.

# WA's LARGEST AGRIBUSINESS COMPANIES

Ranked by WA Revenue



Rank	Change	Company	Senior WA executive and title	Year est. in WA	Total staff in WA	Balance date	WA Revenue (\$m)	Core business
1	—	<b>CBH Group</b>	Mr Jimmy Wilson Chief Executive	1922	1,100	30-Sep-19	<b>4,189.6</b>	Grain storage, handling and marketing co-operative
2	—	<b>Glencore</b>	Mr Rob Haddrill Grain Merchant			31-Oct-18	<b>910.0</b>	Grain export
3	—	<b>KB Food</b>	Mr Shenshen Li Chief Financial Officer	2016	347	31-Dec-18	<b>613.8</b>	Seafood production and processing, and food services
4	—	<b>Plum Grove</b>	Mr Andrew Young Executive Chair	2003	60	31-Oct-18	<b>493.0</b>	Transporting, accumulating, storing, grading, handling, containerising, exporting and trading grain
5	↑	<b>Geraldton Fishermen's Co-operative</b>	Mr Matt Rutter Chief Executive	1950	256	30-Jun-19	<b>350.7</b>	Western rock lobster processing and marketing co-operative
6	↑	<b>Harvest Road Group</b>	Mr Greg Harvey Chief Executive	1919	536	30-Jun-19	<b>343.7</b>	Pilbara cattle stations, abattoir in Harvey, brands include Harvey Beef
7	↓	<b>WAMMCO</b>	Mr Coll MacRury Chief Executive	1971	360	30-Jun-19	<b>330.9</b>	Lamb processing and marketing co-operative
8	↑	<b>Galati Group</b>	Mr Frank Galati Chief Executive	2011	1,154	30-Jun-19	<b>324.7</b>	Grows and sells vegetables, fruit, eggs and cattle
9	↓	<b>Craig Mostyn Group</b>	Mr Patrick Walsh Chief Executive	1923	495	30-Jun-19	<b>308.1</b>	Pork, seafood and rendered products. Brands include Linley Valley Pork
10	↑	<b>Emerald Grain</b>		2005		31-Oct-18	<b>280.0</b>	Grain and oil seed export
11	↓	<b>Wellard</b>	Mr John Klepec Executive Chair	1979	90	30-Jun-19	<b>235.3</b>	Livestock exporter; shipping charter; chilled meat exporter
12	↓	<b>International Livestock Export</b>	Mr Michael Stanton Managing Director	1989	8	30-Jun-19	<b>226.5</b>	Livestock export
13	↑	<b>Cargill</b>				30-Sep-18	<b>210.0</b>	Grain export
14	↑	<b>Milne Agrigroup</b>	Mr Graham Laitt Managing Director	1910	307	30-Jun-19	<b>183.0</b>	Manufactures livestock feed, and owns meat and poultry farms. Brands include Plantagenet Pork and Mt Barker Chicken
15	↓	<b>AAA Egg Company</b>	Mr Peter Bell Managing Director		300	30-Jun-18	<b>162.4</b>	Owes egg producers and processors Golden Egg Farms (100%) and Farm Pride Foods (49.8%), Welshpool chicken feed producer Nufeds
16	↓	<b>Western Meat Packers</b>	Mr Andrew Fuda Chief Executive	1983	360	30-Jun-17	<b>150.0</b>	Abattoir in Margaret River, cold store and production facility in Osborne Park
17	↑	<b>WA Plantation Resources</b>	Mr Yoshi Shimoda Managing Director	1969	87	31-Dec-18	<b>138.3</b>	Exports around 1 million tonnes of woodchips to Japan every year and manages thousands of hectares of sustainable bluegum plantations across the South West of WA
18	↓	<b>Austral Fisheries</b>	Mr David Carter Chief Executive	1981	35	31-Dec-18	<b>133.3</b>	Deep sea fishing to catch Patagonian Toothfish and Mackerel Icefish; 10 prawn trawlers off northern Australia; and its Seafood Solutions division which specialises in sourcing and marketing of quality sustainable seafood

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