



WA Grains Industry Strategy 2025+

A strategy to double the value of the
Western Australian grains industry by 2025

February 2015

Thank you

The Grain Industry Association of Western Australia Inc. (GIWA) has coordinated the development of the WA Grains Industry Strategy 2025+ on behalf of the whole Western Australian grains industry. GIWA would like to acknowledge and thank all those people in the grains industry who have contributed to the development of the strategy.

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Contents

Executive summary		4
Introduction		7
	Global demand for grain is increasing	8
	The Western Australian grains industry today	8
	Competition is increasing	10
WA Grains Industry Strategy 2025+		11
Strategy actions		12
	Critical success factor: Efficient and competitive supply chains	12
Strategy 1:	Optimise grain handling and transport infrastructure	12
Strategy 2:	Reduce regulation and red tape	14
	Critical success factor: Access to high value markets	15
Strategy 3:	Position Australia as a preferred and reliable exporter of grain	15
	Pre-competitive promotion of Australian grain	15
	Pre-competitive promotion of WA grain	16
	New high value market opportunities	16
	Classification and quality standards	17
	Biosecurity – maintaining and demonstrating our freedom from pests, diseases and weeds	17
Strategy 4:	Analysis of value-adding opportunities	18
	Critical success factor: Effective adoption of tailored knowledge and new technologies	19
Strategy 5:	Provision of essential regional technology infrastructure	19
	Radar coverage	19
	Mobile communications infrastructure	20
Strategy 6:	Building farm business resilience	21
	Critical success factor: Access to skilled people	23
Strategy 7:	Skilled industry personnel	23
	Critical success factor: Focussed Research and Development (R&D)	24
Strategy 8:	Focused farm productivity R&D	24
	Critical success factor: Access to capital	26
Abbreviations		27



Executive summary

The Western Australian grains industry was challenged to develop a strategy to double the value of the grains industry over the next decade to 2025.

The development of this strategy was undertaken on behalf of, and with wide consultation across, the WA grains industry. Its aim is to focus on the key actions and guide investments and projects that can lead to a substantial increase in the value of the WA grains industry. It has been compiled by the Grain Industry Association of Western Australia Inc. (GIWA) with funding from the Department of Agriculture and Food, Western Australia (DAFWA).

There are eight recommended strategy actions in the WA Grains Industry Strategy 2025+ to double the value of the industry, as shown in summary below. These strategy actions were arrived at by distilling down the main drivers that the participants in the process believe would deliver significant value-add for the whole WA grains industry.

At the end of each strategy action, a strategy lead (**shown in bold**) is identified. The strategy lead organisations are being asked to take responsibility for leading the projects and activities to address the strategy action. In addition there will be many organisations and companies that will need to be consulted and involved to successfully achieve each strategy action.

Executive summary

Strategy 1: Optimise grain handling and transport infrastructure

- > Grain transport and logistics review – to identify least cost pathways for grain exported from WA to guide investments.

Strategy lead: GIWA

- > Kwinana intermodal transport hub – examine the need for transport of grain into the Kwinana Industrial Area and containerised grain to the Fremantle Inner Harbour and the future Outer Harbour.

Strategy lead: Freight and Logistics Council of WA and the Department of Transport

Strategy 2: Reduce regulation and red tape

- > Assist grain businesses with approval processes.
- > Continue to identify improvements to reduce the costs of export clearance processes.
- > Continue to identify improvements to reduce the costs and timelines for chemical registration processes.
- > Repeal the State legislation on Genetically Modified crops.
- > Reduce the cost of port access codes and protocols.

Strategy lead: GIWA and DAFWA

Strategy 3: Position Australia as a preferred and reliable exporter of grain

- > Pre-competitive promotion of Australian grain.

Strategy lead: ideally led by a national industry body; but in the absence of a single industry body it is suggested the Australian Export Grains Innovation Centre (AEGIC) should coordinate an alliance or consortium (a 'Grains Australia' model) of interested organisations.

- > Pre-competitive promotion of WA-origin grain for specialised markets such as noodle wheat, oats and Australian sweet lupins.

Strategy lead: GIWA

- > Identify new high value market opportunities.

Strategy lead: Commercial companies and AEGIC

- > Classification and quality standards in place to meet market requirements.

Strategy lead: Grain Trade Australia

- > Biosecurity programs in place to meet market access requirements.

Strategy lead: the Australian Department of Agriculture and DAFWA

Strategy 4: Analysis of value adding opportunities

- > Encourage investment in processing in WA and in export customer countries that will give preferred access to Australian grain, reduce market risk and increase returns to WA grains businesses.

Strategy lead: GIWA and commercial proponents

Executive summary

Strategy 5: Provision of essential regional technology infrastructure

- > Doppler radar coverage throughout the WA grainbelt.
Strategy lead: GIWA and DAFWA
- > Mobile communications throughout the WA grainbelt.
Strategy lead: GIWA and DAFWA

Strategy 6: Building farm business resilience

- > Appropriate risk management and finance products available.
Strategy lead: Commercial companies
- > Attracting external capital into farm businesses for expansion and increased stability in the financial operation of grain farms.
Strategy lead: Australian Association of Agricultural Consultants WA (AAACWA) consultants and finance sector; with support from DAFWA and the Rural Business Development Corporation
- > An innovative and responsive farm machinery and input supply sector.
Strategy lead: Farm Machinery and Industry Association of WA Inc. (FMIA) and Commercial companies
- > Integrated data management and decision support systems.
Strategy lead: Commercial providers
- > Appropriately targeted government support programs.
Strategy Lead: GIWA and the Australian Grain Institute (AGI) Capacity Building project

Strategy 7: Skilled industry personnel

- > Identifying and addressing areas of shortfalls in the availability of appropriately skilled personnel in all parts of the grain value chain.
Strategy Lead: GIWA AGI Council and the AGI Capacity Building project

Strategy 8: Focused farm productivity research and development (R&D)

- > Setting priorities for the expenditure of grower funded research, development and extension (RD&E).
Strategy Lead (priorities): Grains Research and Development Corporation (GRDC)

Access to capital

Implementation of many of these strategies will require access to new capital. This will particularly apply to investments in:

- > Grain handling and transport; rail, road and storage infrastructure.
- > Value-add opportunities; both on and off-shore grain processing.
- > Regional infrastructure; Doppler radar stations and mobile communications infrastructure.
- > Farm business resilience; innovative insurance and finance products to finance cropping programs and handle weather risk, and provide external equity into farm businesses.
- > Focussed R&D; investment in innovation and getting new technologies to market.

Introduction

The grains industry is the most important agricultural industry in WA; accounting for more than 50 percent of the gross farm gate value of agricultural production in the State. More than 90% of grain grown is exported as whole grain into highly competitive international markets. It is essentially a high-volume commodity business, and this will continue to characterise the industry through the next decade to 2025.

The WA grains industry was challenged¹ to develop a strategy to focus on actions to double the value of the grains industry over the next decade to 2025. The development of this strategy was undertaken on behalf of, and with wide consultation across, the WA grains industry to focus on the key actions and guide investments and projects that would lead to a substantial increase in the value of the WA grains industry. Consultation has occurred through focused workshops and with organisations and companies involved in the WA grains value chain. It has been compiled by GIWA and funded by DAFWA.

The broad aim of the *WA Grains Industry Strategy 2025+* is to provide a shared whole-of-value-chain focus on actions that will make the biggest contribution to achieving an increase in the value of the industry. It will do this through guiding investment and projects on behalf of the State's grains industry.

In addition to the eight industry strategies developed for the grains industry, which are discussed in this document, specific action strategies have been identified for wheat, barley, oats, oilseeds and pulses and these are the subject of a companion report. Action on the commodity specific strategies will be addressed through respective GIWA commodity councils with the assistance of other industry organisations and individual businesses.

The strategy was prepared using the framework from Angus Taylor's *Greener Pastures: The Global Soft Commodity Opportunity for Australia* and New Zealand to address the six critical success factors for a high performing agrifood sector².

¹The Department of Food and Agriculture Western Australia (DAFWA) is leading 'Agrifood 2025+' – an initiative in which Agriculture and Food Minister Ken Baston and DAFWA aim to double the real-term value of sales from WA's agrifood sector between 2013 and 2025. Closely linked to the State government's Seizing the Opportunity initiative, 'Agrifood 2025+' supports the State government's goal to broaden the base of the State's economy. Industry and government agree that the agrifood sector has the potential to contribute more to the State's economy, with its farming business potential yet to be fully realised due to limited demand. An increasingly prosperous Asia, coupled with rapid worldwide population growth, is now starting to provide the buying power needed to make that development viable.

²*Greener Pastures: The Global Soft Commodity Opportunity for Australia and New Zealand* (Jackson Partners, Angus Taylor), ANZ Insights Series No. 3, October 2012



Introduction

Global demand for grain is increasing

The United Nations Food and Agriculture Organisation's *How to Feed the World in 2050* report estimates that by 2050, there will be a third more mouths to feed worldwide, and accordingly, food production worldwide will need to increase by 70%. It is estimated that by 2025 the world's population will grow by one billion and this will require up to a 30% increase in grain production to meet the demand for human and livestock consumption. This means estimated annual global cereal production will need to rise from 2.1 billion today to about three billion tonnes.

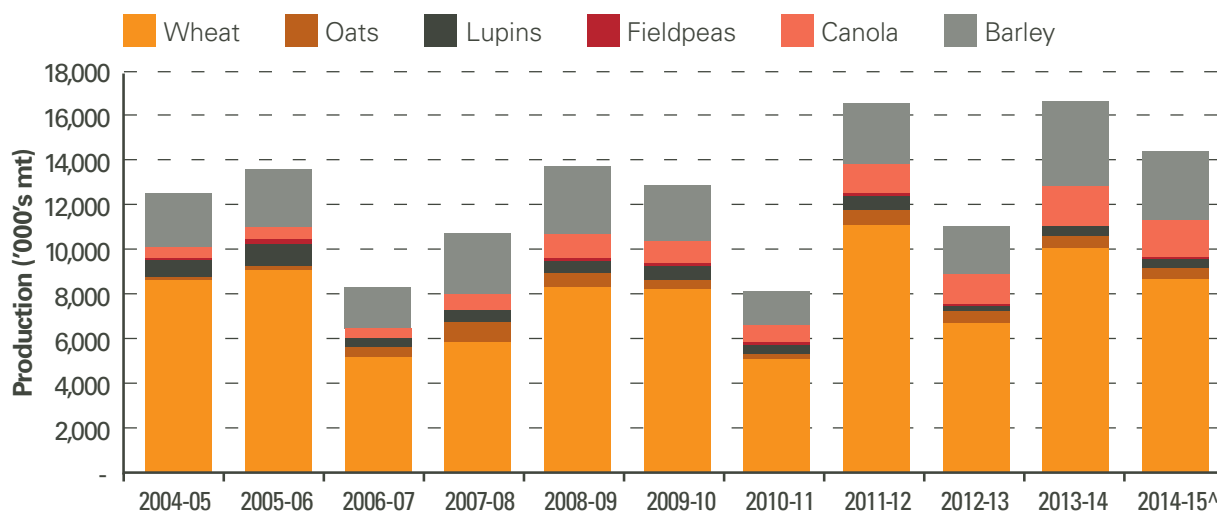
With most of the increased demand in the decade to 2025 expected to come from Asia, the WA grains industry is arguably well placed to supply the growing market. The industry's competitive advantages are strong:

- > Lower production risk (less rainfall variability) and lower supply chain costs (from farm to port) than from other Australian production areas.
- > Large scale and skilled grain growers supported by a highly professional farm business and agronomy consultancy network.
- > Significant R&D capacity.
- > Recognised internationally as having a strong product integrity focus; and freedom from pests, diseases, mycotoxins, contaminants and residues.

The Western Australian grains industry today

The 2014-15 harvest of 14 million metric tonnes (mmt) followed a record harvest in 2013-14 of 17mmt. Over the past decade there has been about a 20% increase in the volume of grain production (noting variability year-to-year) for the WA grains industry.

Figure 1: WA Grain Production (2004-2015)

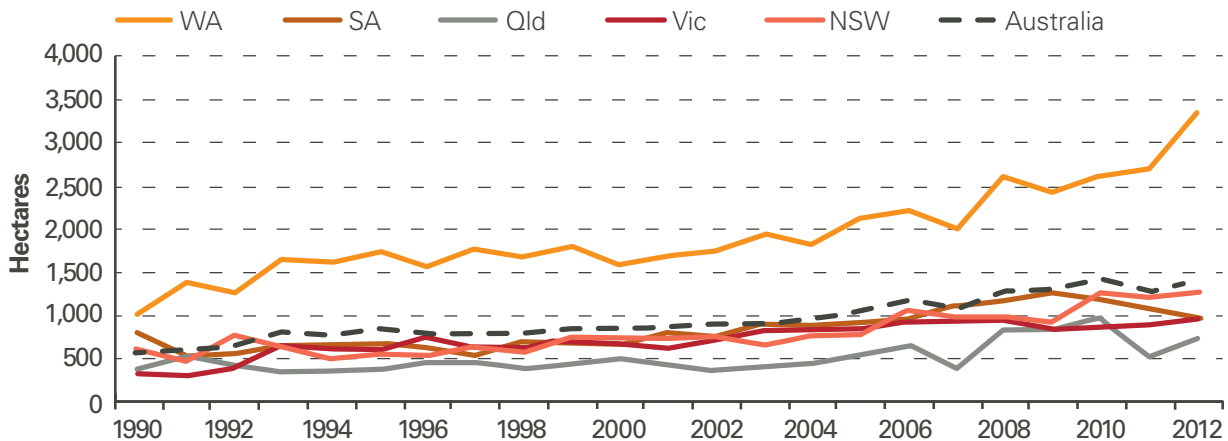


Source – Australian Export Grains Innovation Centre (AEGIC)

Introduction

There are approximately 4,000 grain producers in WA and grain farms are generally larger in scale and generate higher farm cash incomes than those in the other grain producing Australian States.

Figure 2: Average crop area per farm (1990 to 2013)



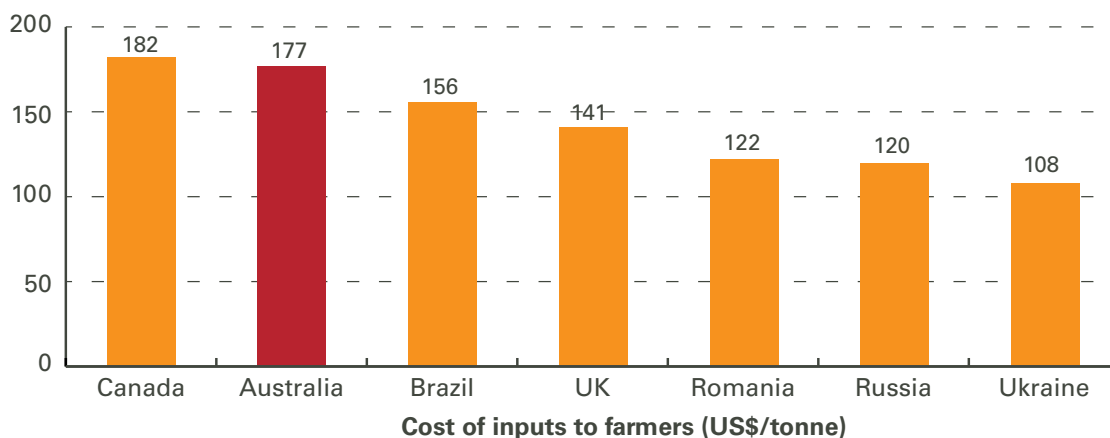
Source: *Optimising future extension systems in the Australian grains industry*, Mick Keogh, Australian Farm Institute, 2014

Nevertheless, the industry faces considerable challenges:

- > Productivity; broadacre productivity growth falling, 2.2 % per annum 1953-1994 down to 0.4% per annum 1993-2013.
- > Big variation in financial performance since the 1990's with more than 25% of broadacre farms consistently making a loss.
- > The median age of grain producers is over 50 and the available agricultural labour force has declined rapidly.
- > Farm debt has grown 8% per annum in the last decade.

Perhaps the greatest challenge is the cost of producing grain. Australia and WA are amongst the highest in terms of input costs of the grain exporting countries, as Figure 3 illustrates for wheat. This is largely the result of our low rainfall and less productive soils, coupled with high input costs.

Figure 3: The comparative costs of inputs to grow a tonne of wheat



Source: USDA

Introduction

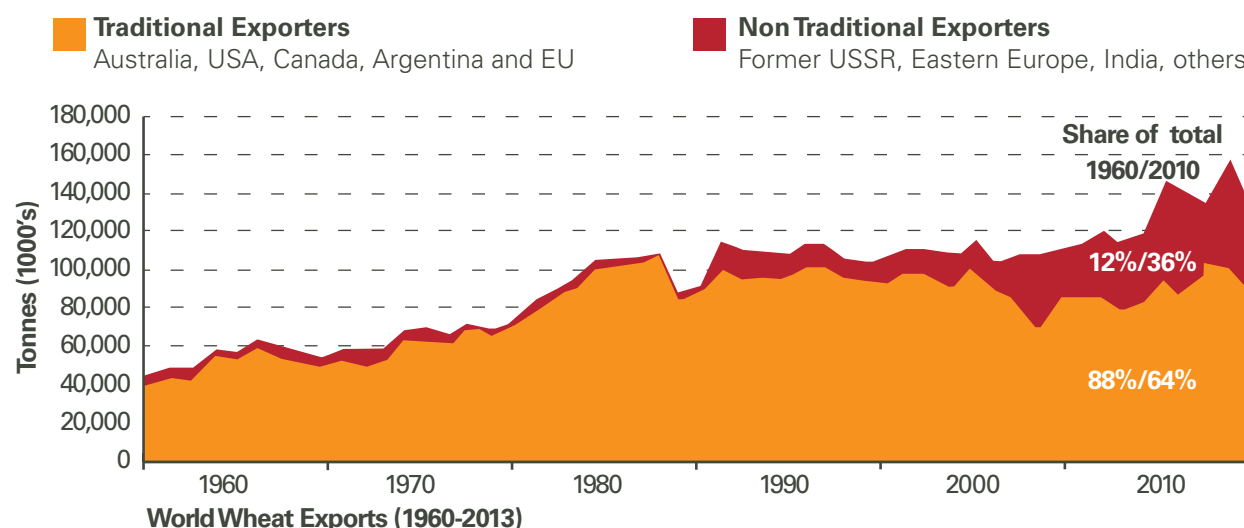
Competition is increasing

Demand for grain is expected to increase by 30% over the next decade to 2025. At the same time there is expected to be rapid growth in the global production and export of grain, particularly from Eastern Europe and South America.

Brazil and Argentina have plans to massively expand their production, mainly through increased production of corn and soybeans. Russia and the Black Sea region have been increasing the production of wheat and barley.

Focussing specifically on wheat, the world wheat exports from 1960 to present have been increasingly penetrated by new exporters. This has seen the 'Top Five' exporters' share of world wheat exports decrease from a high of 88% to 64% within the period 1960-2013. Non-traditional exporters, including India, Post-Soviet States, namely Russia, the Ukraine and States within Eastern Europe, have slowly been increasing their market share. In 2013 this stood just above 35%, as shown in Figure 4 below.

Figure 4: The rapid expansion of other origins of wheat exports



Source: USDA

During 2013-14 Russian wheat reportedly landed into the Middle East and South East Asia \$30 per tonne cheaper, and the quality of the wheat from Russia and the Black Sea region has been improving rapidly. According to the USDA, the so called KRU countries (Kazakhstan, Russia and the Ukraine) will ship 22% of the world's grain exports by 2021.

This means participants in the WA grains industry will need to focus on innovative ways to achieve a competitive edge if it is to take an increased share of the global grain export trade in the face of this intense competition and achieve anything like double the current value of the industry.

WA Grains Industry Strategy 2025+

There are eight recommended strategy actions in the *WA Grains Industry Strategy 2025+* aimed at doubling the value of the industry.

The eight recommended strategy actions were arrived at by distilling down the main drivers that the organisations, businesses and individuals from within the grains industry who participated in development of the strategy believed would deliver significant value-add for the whole WA grains industry.

At the end of each strategy action, a strategy lead organisation (shown in bold) and key supporting organisations are identified. The strategy lead organisation is being asked to take responsibility for driving the projects and activities to address the strategy action. There will be many stakeholders vitally interested and involved in the delivery of the strategic action, but it is important, if the strategy is to be implemented, that there is a clear responsibility on the strategy lead to drive the strategy.

In addition to the eight industry strategies developed for the WA grains industry, there are specific action strategies which have been developed for wheat, barley, oats, oilseeds and pulses. These are provided in a separate accompanying report.

The development of this industry strategy was forged from the workshops and submissions from companies and individuals with a commercial position in the industry. There were many individual ideas for the development of the grains industry. Most of these were covered in Appendix A in the industry draft report of the *WA Grains Industry Strategy 2025+*, October 2014.



Strategy actions

Critical success factor: Efficient and competitive supply chains

Strategy 1: Optimise grain handling and transport infrastructure

The objective of this strategy action is to strive to achieve the least-cost pathway for grain exported from WA.

Grain transport and logistics review

While there is already port capacity for 50 million metric tonnes of bulk grain shipments per annum through CBH Group facilities, the transport supply chain (road and rail network) is considered to be a major impediment to the improved efficiency of the WA grains industry.

During December 2009, the Strategic Grain Network Review (SGNR) was prepared by the Freight and Logistics Council³ which identified the required investment in the grain rail freight network and recommended the closing of uneconomic (Tier 3) railway lines. The plan as set out in this report has largely been implemented, although it was reported that the required road upgrades have yet to be fully implemented. However, since the closure of the Tier 3 lines during July 2014 there has been a constant call for their reinstatement by affected growers and shire councils.

The *WA Grains Industry Strategy 2025+* calls for a reassessment of the SGNR on the grounds that since 2009:

- > CBH Group has purchased and operates its own trains and new lighter-weight rolling stock.
- > Grain harvests have increased with 20 million tonne crops now a distinct possibility within the decade to 2025+ (up until the SGNR, the maximum harvest had been 15 million tonnes and during 2013/14 WA had a harvest in excess of 17 million tonnes). The situation has also been exacerbated by having to handle the peak shipping capacity requirements of the multiple exporters within a particular year.
- > Confusion caused by continual calls by grower and shire advocates to enable certain Tier 3 lines to be re-opened (either through a mix of further government, Brookfield and CBH Group funding) and calls by CBH Group that it is willing to take over the ownership or lease of these lines.
- > There has allegedly not been the investment in road upgrades and maintenance sufficient to offset the closures of Tier 3 lines.
- > Uncertainty that further lines (Tier 2) may face closure (although this is flatly denied by Brookfield who say there are no such plans).
- > The entry of new substantive grain handling, storage and shipping companies with Bunge's investment at Bunbury port and proposed up country storage investments and seen as the sign of further investments by other companies in WA grain freight logistics.

It has been pointed out that if the SGNR is revisited then it should be expanded in its scope to include up-country storage and port facilities, as well as a more detailed look at the true cost of road freight options to ensure a comprehensive analysis of the least-cost pathways for grain to market. While CBH Group has 20 million tonnes of up-country storage capacity, it has been argued the distribution of the storage capacity may not be optimal going forward, especially in light of plans by other participants for the construction of their own up-country storage and contracting direct from growers.

As one participant in the development of the *WA Grains Industry Strategy 2025+* put it:

"Let's start with a clean sheet and determine what would be the least cost pathways to get grain from farm to markets, without taking into account the current infrastructure and ownership of that infrastructure."

At the October 2014 meeting of the Freight and Logistics Council of WA, it was decided that further involvement by the Council (including considering a refresh of the SGNR) would be premature pending the Minister's response to the Parliamentary Committee's report⁴ on and the conclusion of commercial negotiations between Brookfield and CBH Group. The Department of Transport likewise has confirmed that it currently has no plans to undertake or lead a study such as the one proposed in the *WA Grains Industry Strategy 2025+*.

However, the industry's clear preference is for a comprehensive review undertaken as soon as possible. If funding is not available from government consolidated revenue funds it is considered appropriate that Royalties for Regions funding be made available to fund this review, under the direct auspices of the Minister for Transport, or the Freight and Logistics Council of WA.

Strategy actions

A key outcome of the review would be to provide contemporary public and transparent paddock-to-customer supply chain costs, highlighting appropriate investments by the commercial sector (including growers) and the government over the next decade. These investments in WA will be in railways and roads; rolling stock and trucks; up-country and on-farm storage; and port storage and loading facilities. There is also a need to understand and take into account the likely developments in shipping and destination port infrastructure.

It is envisaged this would need to be driven by a least-cost pathway analysis of the process for getting grain from farm-to-export port and shipping from export port to destination port and on to the customer. This would require the cooperation of the commercial companies involved, and in particular CBH Group and Brookfield Rail, for the analysis of rail freight and up-county storage infrastructure. Such an analysis could provide the base information for identifying the required investment in rail transport to serve the industry over the next decade as well as identify the value and need for other investments in transport, storage and handling infrastructure. It is recognised that CBH Group and Brookfield Rail have the major commercial interest in the current structure of grain storage and handling, and full transparency may run counter to their commercial interest. CBH Group submitted that it regularly reported to, and provided full disclosure of its supply chain and attendant costs, to its grain producer members. Any independent analysis done by consultants, AEGIC or the WA Economic Regulation Authority would need to be done in close consultation with CBH Group and Brookfield Rail to avoid confusing messages to stakeholders on what is a very complex issue.

Within this review all aspects of road transport operations and regulation, including tonnage limits and axle configurations, need to be reviewed in comparison to other industries operating with significant trucking movements around Australia.

Another issue raised was the need for ports to continually monitor load size demands and be ready to fund upgrades to ensure the most efficient shipping vessels can be used in WA.

Strategy lead: GIWA; in collaboration with the grain organisations and acquisition and logistics companies operating in WA (to the point of obtaining project funding and delivery responsibilities agreed); Input from the Department of Transport and DAFWA would be essential to the success of the project. AEGIC stands ready to assist with the analysis of supply chain costs and infrastructure.

Kwinana intermodal transport hub

There is likely to be further development of port storage and handling facilities at Kwinana and regional ports in WA in proximity to the grainbelt by commercial companies with a rationalisation of CBH Group receival sites. This is despite CBH Group's claim that as a grower co-operative it has no incentive to exclude or hinder access to their terminals by Australian growers and the grain marketers that buy their grain.

An immediate project envisaged to be required within the next decade for an efficient export grain supply chain is a container port at Kwinana and infrastructure to support the railing of containers from the Kwinana Industrial Area to the existing Fremantle Inner Harbour and the proposed Outer Harbour port. The volume of Inner Harbour container trade is growing at 5% per annum and the need for a container port in the Outer Harbour is considered as highly likely by 2025.

The development of the intermodal transport hub as part of the Latitude 32 project and the direct rail link to the Kwinana Industrial Area could assist grain container exporters put more containers on rail and reduce the movement of containers on trucks and, at least in the case of one grain container exporter, eliminate grain trucks being on the Fremantle road systems. It would also be able to service any future grain processing facilities being built in the Kwinana Industrial Area. Interest has been expressed in the establishment of canola crushing and oil refining, pelletising and stockfeed manufacturing, and flour mills. The Freight and Logistics Council of WA has agreed to further examine the needs for the transport of grain into the area and containerised grain to port.

Strategy lead: Freight and Logistics Council of WA and the Department of Transport; in collaboration with DAFWA, GIWA and the grain organisations and acquisition and logistics companies operating in WA. AEGIC stand ready to assist with the analysis of supply chain costs and infrastructure.

Strategy actions

Strategy 2: Reduce regulation and red tape

A consistent call from the grains industry is that they are hampered by restrictions and the costs of regulation, with government not doing enough to support and assist them to grow their business. There needs to be a culture of supporting industry to be efficient and grow rather than increasing restrictions and adding costs. It is also recognised that industry itself can impose undue self-regulation. The setting of delivery standards for grain needs to carefully reflect market needs while avoiding any unnecessary impositions and costs.

Assisting grain businesses with approval processes

It is suggested that DAFWA set up a clear protocol to identify and provide guidance on obtaining the approvals required for critical agribusiness ventures as well as providing advice on how to resolve areas of concern with costs and restrictions imposed by government on the industry. It is suggested that GIWA also works closely with the rural interest organisations such as WA Farmers, the Pastoralists and Graziers Association, and the Farm Machinery and Industry Association (FMIA) of WA in this area to help identify and offer practical solutions from the industry's perspective.

Land clearing still remains a major issue of concern to grain growers and a system to enable offset of retiring land in return for permission to clear productive land should be investigated. This would assist in boosting the productive capacity of the grainbelt.

Export clearance processes

An area still of considerable concern is the cost and slow speed of bureaucratic processes associated with obtaining export clearances. This is particularly apparent for the container trade, where costs of inspections for small shipments amount to large per tonne additional costs. While the Australian government is to be commended for implementing the outcomes of its Grain Export Certification Reform Program (systems were streamlined, flexibility in operations substantially increased and costs reduced) grain exporters still believe that the processes required to get export clearances from Australia are much more difficult and costly than those faced by our competitors exporting to the same markets, or supplying locally to these markets. While it is acknowledged that the Australian Department of Agriculture is trying to further streamline its processes and address these issues, the industry believes much more could be done to reduce these costs.

Given the importance of export to the State's grains industry, GIWA and grain exporters need to inform and assist the operations of the Grains Industry Market Access Forum (GIMAF) which has the responsibility of reporting to the Australian government on market access issues for the Australian grains industry.

Chemical registrations

It was generally acknowledged that there was a need for clearer, and less costly, pathways to market for the registration of new chemicals or new applications for existing chemicals (and biotechnology developments including genetic modification). Many of the existing pathways to market seem excessively complicated and bureaucratic; especially when these technologies have already been approved for use in specific grain crops or the same crops grown overseas and approval is being sought to incrementally apply their use for other crop species. The grains industry supports changes to the regulations of AgVet chemicals, such as through relying on the advice of trusted foreign regulators (through the global joint regulation review process) and allowing the Minister to issue temporary permits for chemicals.



Strategy actions

Repeal the State legislation on GM crops

There needs to be clear and efficient pathways to market for new technologies of benefit to the industry. In this regard, the industry affirms its request for the State government to repeal the WA *Genetically Modified Crops Free Areas Act* 2003 and amend the WA *Gene Technology Act* 2006 to be in lock-step with the Commonwealth *Gene Technology Act* 2000. This will still provide for health and environmental concerns to be met before GM traits can be released, but would provide for lower cost adoption pathways for GM crops, while still providing security and market choice to consumers. Co-existence to ensure growers and consumers can exercise their choice to respectively utilise these new technologies and choose to consume products, with or without these technologies, has been the core principle adopted by the WA grains industry and should continue to be delivered through industry self-regulation.

Port access codes and protocols

The industry is divided in its opinion about the value of regulations covering port access codes, but several acquisition and marketing companies argue the codes and protocols should be dropped altogether and be replaced by a renewed focus on the needs of our international customers.

Strategy lead: GIWA and DAFWA; in collaboration with the Agrifood Alliance WA⁵ and the Chamber of Commerce and Industry (CCI), CropLife Australia and with the cooperation of national and State parliaments and government departments responsible for statutes and regulations.

Critical success factor: Access to high value markets

Strategy 3: Position Australia as a preferred and reliable exporter of grain

Australia will largely remain an exporter of high volume commodity grains over the next decade. However if the industry is to grow in value, it is important to focus on servicing high value markets with the capacity to pay for quality which meets the specific requirements of each customer.

Pre-competitive promotion of Australian grain

The view of many in the WA grains industry is that an increased generic promotion and marketing of Australian branded grain products is needed. There is also a view that we need to secure as many open markets as possible by focusing on opportunities arising from bilateral free trade agreements and concentrating on our reliable grain quality and biosecurity status. Once identified, these markets need to be nurtured to grow and then defended against competition.

Commercial companies marketing and exporting Australian grain provide information on seasonal grain quality data, testing and functionality traits to end users as a critical part of their competitive strategies to service their customers and help collectively to build the Australian reputation ('brand') for reliable quality products. The Grains and Legumes Nutrition Council also assists in providing an independent source of Australian specific information on the quality and nutrient content of Australian grains.

There needs to be close cooperation between commercial companies and organisations involved in generic promotional roles, such as AEGIC, GTA, Grain Growers Limited, Pulse Australia, the Australian Oilseeds Federation (AOF) and the Grains and Legumes Nutrition Council, as well as Federal and State government trade development agencies, to attain effective, coordinated pre-competitive promotion of Australian grain.

The aim should be to avoid any potential confusion arising from mixed messages due to any disconnects between the promotional activity being undertaken by these organisations and that of commercial participants who have a financial stake in the ongoing and effective marketing and export of Australian grain.

Strategy lead: ideally led by a national industry body; but in the absence of a single industry body it is suggested AEGIC should coordinate an alliance or consortium (a 'Grains Australia' model) of interested organisations with GTA, GIMAF, Grain Growers Limited, Grain Producers Australia, the Grains and Legumes Nutrition Council, Pulse Australia, AOF, Barley Australia and Wheat Quality Australia; with technical, market and economic analysis support from AEGIC and trade promotion support from Federal and State government trade development agencies.

⁵The Agrifood Alliance WA is an alliance of 13 major WA agricultural industry organisations formed to tackle common issues affecting the WA agrifood sector.

Strategy actions

Pre-competitive promotion of WA grain

There are also some exported grain products which have been a priority focus in WA when compared to the rest of Australia – notably noodle wheat, milling and feed oats and Australian sweet lupins. The opportunity to build market premiums for these products by distinguishing them through accreditation programs incorporating traceability of origin should be explored further as part of the strategy to gain increased value for grain produced in WA.

Strategy lead: GIWA; in collaboration with the grain marketing companies operating in WA; with support from DAFWA and technical, market and economic analysis from AEGIC.

New high value market opportunities

While it is recognised that marketing Australian grain is largely the province of individual commercial companies operating in the Australian grains industry, there are opportunities for an industry approach to identify long term trends and demand for higher-value uses in new destination markets or for new products in existing destination markets. There is also a role for analysing trends in competition for existing current high volume and high value markets.

This information can then be utilised by commercial companies in the Australian grain industry to develop new market opportunities and to assist in their marketing strategies. Innovative partnerships with overseas end-user companies to establish and grow high value grain export opportunities should be a key objective of this strategy. An example is the recent rapid growth in oats to China, albeit at a small scale to date. AEGIC is the industry body best able to lead this pre-competitive industry function.

Strategy lead: Commercial companies and AEGIC; in collaboration with the Australian Department of Agriculture, the Department of Foreign Affairs and Trade, GIMAF; and DAFWA and the trade offices of the Department of State Development (DSD) in WA.



Strategy actions

Classification and quality standards

A large part of maintaining Australia's reputation is to ensure we have a good framework for industry self-regulation which builds and promotes trust in Australian grain. At the core of this framework is the maintenance of practical market focused classification and receival standards to:

- > Make sure we are meeting the requirements of our customers.
- > Ensure classification criteria have a market value that is commensurate with the effort required to achieve the criteria.

From a plant breeding perspective, if we add new 'requirements' for high value markets there is a need to ensure the market value for achieving the requirements compensates for the slower pace of yield improvement. For every additional trait requiring selection there is a slower rate of progress in achieving higher yield. Increasing yield by 10% over a 10 year period is the equivalent value of incorporating an additional quality trait valued at \$20-\$25/t with no NetYield improvement. Hence there is a need for both market intelligence on requirements, and economic assessment of the value of pursuing breeding traits into new varieties before classification criteria are changed.

An understanding of what end market customers perceive as valuable – regarding quality, safety and functionality – must feed into any effort to change the quality systems used to manage the accumulation and segregations of Australian grain. Introduction of these systems is costly, and must show that there is benefit from increased ability to meet end users requirements.

To date, marketers and their end-user customers have rarely insisted on on-farm quality assurance and traceability back to property for supplied grain. The onus is on the grain supply company to meet test specifications. However, there are some buyers who require traceability and assurance records back to the property of origin and this trend is expected to grow over the decade to 2025. It will be important to have appropriate assurance programs available for growers to adopt to meet traceability and compliance monitoring for any specific requirements for market access or access to restricted chemical requirements as and when required.

The development of quick tests for detection of chemical residues in grain that could jeopardise market access and new chemical and protein fingerprint technologies to rapidly detect any quality problems in the supply chain and calibrate our grain products against attributes of competing grain products would provide significant improvements to the current quality integrity control tools available.

Strategy lead: GTA; in collaboration with the ADA, GIMAF, DFAT, GRDC, Wheat Quality Australia (WQA), Barley Australia, Pulse Australia, AOF; with technical, market and economic analysis support from AEGIC and input from WA export perspective by GIWA.

Biosecurity – maintaining and demonstrating our freedom from pests, diseases and weeds

In parallel with ensuring the quality of our grain meets market expectations, effective national and State biosecurity strategies will be vital to ensure market access and to cost effectively deal with an incursion event or when a potential threat is imminent.

Effective surveillance and diagnosis processes need to be in place with high industry ownership. This should be guided, in the first instance, by a gap analysis of industry/government funding mechanisms for surveillance, compensation and technology. These need to include processes for:

- > Improved detection of endemic species which could switch to pest status (e.g. Myrtle rust).
- > Monitoring of WA crops for new weeds and stored grain insects through the use of image analysis equipment.
- > Improved options for insect protection in storage.

The WA grains industry needs to manage and develop effective biosecurity strategies, as outlined in the draft WA State Biosecurity Strategy, to ensure appropriate surveillance and diagnostic services are in place to support the marketing of grain.

Strategy lead: the ADA and DFAT; in collaboration with GIMAF, GRDC, Plant Health Australia, GTA, Pulse Australia, AOF; and GIWA, DAFWA and GrainGuard in WA.

Strategy actions

Strategy 4: Analysis of value-adding opportunities

The objective of this strategy is to develop an enhanced understanding of the current demands of consumers in destination markets for WA grain and to develop new business models encouraging investment for integrated supply chains which will give WA preferred access to markets. This will reduce the risk of loss of market share to our competitors in existing markets, but also capture more value for the WA grains industry.

A large part of this strategy is to evaluate the potential for establishing value-add opportunities through processing onshore as well as offshore with overseas partners. It would also involve continuing to screen for new food and grain market opportunities that suit Australian grain product qualities, particularly focusing on Asia and the Middle East.

It is envisaged this would include evaluating the prospects for one or more dedicated value-add grain processing precincts in WA for food and feed grains. The development of a grain processing hub at Forrestfield or Kwinana needs consideration. There are cost reduction efficiencies from the co-location of a combined canola crushing and refining plant, stockfeed manufacture and potentially flour milling in the one precinct.

The identification of potential projects could then be provided to the Invest West Agribusiness Alliance, which is supported by DAFWA and the CCI, to help identify local and overseas potential investment partners. The analysis done on these opportunities would help inform pre-feasibility and feasibility studies for commercial companies and provide investment attraction agencies with a portfolio of opportunities to discuss with potential funders to provide the necessary capital to initiate these projects.

Strategy lead: GIWA and the commercial proponents; in collaboration with the Invest West Agribusiness Alliance⁶, the finance sector (for access to capital) and DAFWA and with technical, market and economic analysis support from AEGIC.

⁶The InvestWest Agribusiness Alliance is a non-profit network of companies, peak industry organisations, government agencies and higher learning institutions aimed at fostering relationships to co-ordinate investment in WA. It aims to have an investment project pipeline of conceptual and investment ready projects in the WA agriculture and food sectors.

Strategy actions

Critical success factor: Effective adoption of tailored knowledge and new technologies

Strategy 5: Provision of essential regional technology infrastructure

There are two regional infrastructure opportunities identified by the WA grains industry for action over the next decade to improve the efficiency of the production sector of the WA grains industry – radar coverage and mobile communications across the grainbelt.

Radar coverage and mobile communications infrastructure are potentially significant drivers of agricultural productivity and competitiveness. These items offer efficiencies in input use and should assist in the general running of the farm. Both projects also offer additional social benefits such as in the management of emergency or disaster situations.

Radar coverage

Current radar coverage of WA is limited to radar stations located in larger regional coastal towns and Kalgoorlie; with only a single, high resolution Doppler radar located in Serpentine. The grainbelt receives limited or no radar coverage with the radar located in Esperance requiring a significant upgrade to achieve modern standards.

DAFWA commissioned the preparation of a business case during 2014 to establish radar coverage across the WA grainbelt which confirmed a positive cost benefit analysis ratio of 8.6 based solely on an assessment of improved efficacy and efficiency of chemical spraying operations. Potential savings from more precise or unnecessary applications of fertiliser, particularly nitrogen, offer an additional benefit which would further improve this ratio considerably.

The business case was based on the provision of three additional Doppler radar stations which could provide rainfall and wind information over the entire grainbelt. When combined with data from the existing network of automatic weather stations, necessary to calibrate the Doppler information, the additional radar coverage would provide both accurate rainfall and wind data at a fine resolution as well as important predictive real-time information on impending, potentially dangerous, weather events. The more detailed data would offer farm businesses with climatic data at a level of detail across their entire land holdings, enabling them to gauge chemical spraying, fertiliser application, seeding and harvesting operations with more efficacy and help to maximise production efficiency. Doppler radar coverage could be a source of data for the development of risk management tools, such as multi-peril crop insurance.

It is suggested that likely source of funding for this project would be the WA government's Royalties for Regions fund.

Implementation of this initiative would require the Bureau of Meteorology (BoM) to supervise the building and ongoing operation of these radar facilities.

Strategy lead: GIWA and DAFWA (to the point of project definition and determining funding arrangements); and then implementation by the Department of Regional Development and DAFWA and BoM with DAFWA supporting the commercial sector in the development of localised weather applications.

Strategy actions

Mobile communications infrastructure

There is a need for the provision of comprehensive data connection services throughout the grainbelt, more than likely utilising digital wireless transmission technology connected to optic fibre in regional centres. Data access is required currently for day-to-day business operation such as banking, communications, operating machinery surveillance and weather updates. Further improvements in data speed would facilitate benefits of telemetry and automation of plant and equipment for precision agriculture as well as provide the opportunity for the real time transfer of data from the field. Data access is mandatory in urban businesses and long-term farm business efficiency will hinge on this improvement of services in rural WA. Future opportunities also exist for effective biosecurity surveillance, diagnosis and reporting and market assurance purposes. The social and occupational health and safety benefits associated with improved mobile access will also provide major benefits.

Telematics and telemetry are a reality for the farming sector abroad and the efficiency gains from the many usage applications now available are already advantaging our competitors.

Telematics is the name given to the combination of telecommunications and informatics and is used for applications 'on the move' such as vehicle tracking (an important safety checking function, e.g. heart attack by tractor driver on remote seeding operations), base station monitoring of fuel usage, seed and fertiliser rates, spraying programs, harvest yields, vehicle speeds and many other uses. An important aspect is the ability of the dealer or manufacturer, no matter where they are, to pick any malfunction or potential malfunction and correct it remotely or to alert the operator of a potential problem and to help prevent catastrophic damage.

Telemetrics is the term used for remote sensing and feedback such as remote sensing of soil temperature, moisture content, rainfall, wind, frost risk, water table levels, dam volume and even machine to machine data sharing. Controlled traffic farming is already commonly Global Positioning System (GPS) guided and both technologies will be needed for the looming age of autonomous farm vehicles, the technology for which is now commercially available.

DAFWA commissioned a study of mobile communications across the agricultural region of WA which confirmed the poor digital network coverage and the competitive disadvantage this was imposing on WA farm businesses in terms of employing new systems in the field. The study concluded that \$122 million investment would generate a return of \$1.75 for every dollar invested through improved returns to farm businesses and the broader economy. This outcome was determined solely from the availability and adoption of variable rate technology and did not account for the other considerable benefits this technology would bring.

Capital funding would need to come from Federal and WA governments, with Royalties for Regions funding being a likely source of capital funding. The Royalties for Regions fund has already provided \$85 million for the regional Mobile Communications Project which has helped fund infrastructure in populated regional communities and along the major roads and highways with a further \$45 million committed to a Regional Telecommunications Project commencing during 2015, again focused on population centres and major roads. Ongoing maintenance and operating costs would be expected to be able to be met from user charges by the telecommunication provider companies.

Strategy lead: GIWA and DAFWA (to the point of obtaining project funding and delivery responsibilities agreed); and then implementation by the Department of Regional Development and the telecommunication provider companies.

Strategy actions

Strategy 6: Building farm business resilience

Risk management and finance products

A key concern of the WA grains industry is how grain farmers can manage increasing risk from variable weather and grain prices. This elevated risk is seen as threatening the viability of many grain producers. Support was shown for the ongoing development of innovative finance packages for cropping programs and for the provision of insurance against weather and price movements. To this end, the development of multi-peril crop insurance is still seen as an end goal, although it is understood this would be difficult to achieve without widespread geographic take up and government support, either in underwriting or at least in providing improved weather and yield performance data to underpin commercial products.

Strategy lead: Commercial finance and insurance providers; with support from GIWA, DAFWA, AAAC WA

Attracting external equity

If the WA grains industry is to grow, individual businesses must have the resources to manage revenue fluctuations from price and weather risk from season to season. One solution is to attract external equity, often termed 'patient capital', primarily from institutional and self-managed superannuation funds and from high net worth individuals. Taking equity in the business can free up capital for expansion or improvements on the farm which will give a higher return than could be achieved from using internal farm business equity and debt finance. A recent study commissioned by DAFWA⁷ found that a key requisite to attracting external equity into an existing farm business was to ensure the business was 'investment ready' with the sorts of management and records equity investors require when considering investment in businesses elsewhere in the economy. For example, they suggested to give investors' confidence, farm businesses seeking external equity should have a board with at least one independent on it and good governance processes in place for reviewing performance and assessing capital purchases.

Strategy lead: Australian Association of Agricultural Consultants WA Incorporated (AAAC WA) consultants and finance sector; with support from DAFWA and the Rural Business Development Corporation

Farm machinery and input supplies

It is recognised that for the WA grains industry to grow it must maintain access to the latest farm machinery and production inputs if it is going to compete effectively with other grain producing countries. An innovative farm input supply industry is vital to the success of the industry. This ranges from plant breeding, seed supply, chemicals, fertilisers and plant and equipment. Effective communication between grain farmers and supply companies is essential to identify opportunities for improving efficiency and solving production problems.

Strategy lead: FMIA of WA and Commercial companies; with support from GIWA, CropLife Australia and GRDC.

⁷KPMG, *The Road to Riches: driving investment in Western Australian agriculture*, December 2014.

Strategy actions

Integrated data management and decision support systems

The benefit of having integrated computerised data management and decision support tools for making adaptive adjustments to cropping programs and business plans in real time was also seen as important. This would enable the integration of the knowledge of market conditions, weather and input costs into the cropping program to manage risk exposure during the season and to monitor and adjust the impact on the farm business plan. These programs can also be used for recording financial and management information and providing information for quality assurance and biosecurity surveillance monitoring.

There is also an issue with accessing and integrating the multiple sources of data, and in evaluating the value of the rapid proliferation of computer-based tools and applications, offered to grain producers. A precursor to making significant progress is seen as the development and adoption of an open data exchange system to harness and combine the range of farming operations data with weather, financial and technical information.

DAFWA manages the eConnected Grainbelt Royalties for Regions Project that will support the development of an 'open ecosystem' of expertise and real-time information for growers and agribusiness. The objective is to harness information that will assist growers to make more informed decisions to optimise crop potential from information delivered to their smart phone or tablet. This will include fostering the development of decision support tools, systems and technologies that agree to be connected by using an open data exchange system. This initiative will require and capitalise on enhanced mobile communication infrastructure across the WA grainbelt.

Strategy lead: Commercial providers; with support from DAFWA

Government support programs

There are a number of government programs aimed at building farm business resilience. Principally focused around managing the risk of droughts an intergovernmental agreement signed in 2014 committed governments around Australia to the following measures:

- > Farm household support payments in times of financial difficulty.
- > Continued access to farm management deposits (FMD's) and taxation measures.
- > A national approach to farm business training.
- > A coordinated, collaborative approach to the provision of social support services.
- > Tools and technologies to inform farmer decision making.
- > In concert with the intergovernmental agreement, WA grain farmers have access to:
- > Farm household allowances – financial help for farmers and their families experiencing financial hardship.
- > Farm business training – through the Plan, Prepare and Prosper workshops to help farmers build their business skills and capacity to manage risk and prepare for future challenges.
- > Rural Financial Counselling services – free financial counselling.
- > Regional Men's Health – advocacy services to individuals under stress.
- > Western Australian Council of Social Service (WACOSS) Farming and Beyond program – helping farmers to talk through their options, including succession and retirement plans.

Notwithstanding the intergovernmental agreement, there are current additional government schemes for:

- > Drought concessional loans – \$20 million for drought concessional loans in WA during 2014/15.
- > Farm finance concessional loans – \$25 million during 2014/15 to assist in debt restructuring.
- > Farm business assessment – for business assessment and implementation advice from business advisers for businesses in the Yilgarn, Westonia and surrounding shires, and Chapman Valley.

Strategy Lead: GIWA through the AGI Capacity Building project, in conjunction with the Grower Group Alliance and AAAC WA; with support from Rural Business Development Corporation, DAFWA and the commercial finance sector and the Australian Federal Government (for taxation and funding).

Strategy actions

Critical success factor: Access to skilled people

Strategy 7: Skilled industry personnel

The WA grains industry is concerned about the lack of people, and in particular young people, seeking a career in agriculture. This will impact the availability of skilled personnel for grain growing businesses and many companies involved in agribusiness upstream or downstream in the grain value chain.

It is understood that this is a problem across agriculture and any work done to address this issue by the grains industry should be done in concert with other agricultural industry bodies to ensure a whole of agriculture/agribusiness approach. Further, it will be important to work closely with the education and training sectors to avoid duplication and ensure a coordinated approach.

Work done in this strategy should take into account the work being done at the national and state level, including work being done by the Royal Agricultural Society and the Agrifood Labour initiative which is a partnership between DAFWA and the Chamber of Commerce and Industry of Western Australia (Inc.) (CCI WA).

As a first step, a skills audit and gap analysis for all sectors of the grain value chain was recommended, examining how capacity shortages could be addressed through appropriate tertiary studies, formal training programs and on-the-job training. This will need to be comprehensive and evidence based (comparing the jobs available and skills needed, against the current and future labour resource base).

It was also thought to be necessary to, in parallel, build up a positive industry image to attract committed people into the industry and encourage young people to take up careers in agriculture and agribusiness. Lessons could be learnt from USA, Canada and New Zealand where agriculture is clearly identified as an important part of the economy, and therefore an important career.

Other ideas canvassed included examining:

- Employment incentives to train personnel and retain them in the industry.
- Programs to improve management skills for farmers.
- Programs to build industry capability and leadership in incident/emergency management.
- Development of more short-term specialised training.
- Local employment and visa schemes for seasonal workers at seeding.
- Addressing the lack of agricultural engineering personnel and a tertiary training facility for agricultural engineering in Australia. This lack has resulted in a gap in the market for personnel who can assist farmers to select, modify and prepare technologies and equipment best suited to Australian conditions.

Strategy Lead: GIWA AGI Capacity Building Project; in collaboration with industry, government, and the education and finance sectors.



Strategy actions

Critical success factor: Focussed Research and Development (R&D)

Strategy 8: Focused farm productivity R&D

Funding

Research, development and extension (RD&E) in the WA grains industry is provided in accordance with the National Grains Industry RD&E Strategy framework⁸. DAFWA is the State department, which together with GRDC, is responsible for leading this strategy which aims to eliminate duplication and fragmentation of RD&E effort and provide a clearer alignment of industry and government priorities. Also relevant is the national Soil RD&E Strategy - *'Securing Australia's soil for profitable industries and healthy landscapes'*⁹.

The 2012-13 GRDC Annual Report states GRDC invested \$52 million in grains R&D for the Western Region during 2012/13. Much of this is via national projects, many of which are led by research organisations from outside WA. Similarly, some of the projects funded in WA are national in scope and applicable to grain producers across Australia, while some are specifically addressing issues in WA. DAFWA currently invests approximately \$16 million per annum in farm-focused R&D, but this level of investment is expected to decline over the coming decade. In addition, the Council of Grain Grower Organisations (COGGO) raises a voluntary contribution on WA grain producers to fund small scale R&D catalytic projects at around \$600,000 per year.

It is expected that the trend of governments withdrawing from funding farm productivity research will continue through the decade to 2025.

Delivery

Delivery of R&D in WA is carried out by DAFWA, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), universities, grower groups and private companies. The RD&E activities of DAFWA, CSIRO, the universities and grower groups are increasingly aligned with GRDC priorities given most of the funding for these activities comes from GRDC. GRDC determine their investment priorities through well-developed consultation processes with growers and industry. The combined scope of this WA grains industry RD&E activity reflects both WA industry priorities and the broad capacities of the providers. The result is a balanced portfolio which includes a diverse spectrum of project activities from short term applied research to long term initiatives with 'blue sky' components.

During August 2014, the Premier of WA, together with the Minister for Agriculture and Food and the Minister for Regional Development announced the establishment of the \$20 million 'Boosting Grains Research and Development' project for grains industry research using Royalties for Region funding. Part of this project is aimed at strategies to encourage R&D investment by other investors and institutions. The project will also be used to employ new agricultural scientists and R&D infrastructure in regional areas, as well as establish a front-line agronomy network to work with grower groups and agribusiness.

⁸Grains Industry National Research, Development and Extension Strategy, 2014 http://www.npirdef.org/cms_strategy/project/6/6

⁹The National Soil Research, Development and Extension Strategy, *Securing Australia's Soil, For profitable industries and healthy landscapes*, Canberra, 2014 http://www.npirdef.org/cms_strategy/project/22/22 Strategy actions



Strategy actions

Setting priorities for the WA grains industry

GRDC plays a major role in analysing the needs of grain producers for improving on-farm productivity and providing a large part of the funding for identified projects to address these priorities.

GRDC is charged under the *PIERD Act*¹⁰ to:

- > Increase the economic, environmental and social benefits to members of primary industries and to the community in general by improving the production processing, storage, transport or marketing of primary produce.
- > Achieve sustainable use and management of natural resources.
- > Make effective use of the resources and skills of the community in general and the scientific community in particular.
- > Support the development of scientific and technical capacity.
- > Develop the adoptive capacity of primary producers.
- > Improve accountability for expenditure on research and development activities.

GRDC develops its investment strategy in accordance with the Act and these six areas, and in consultation with stakeholders a five year plan which is supported by an annual operating plan.

To aid in the implementation of the plan the GRDC Board appoints, and provides support to, three regional advisory panels across Australia, including the Western Region to ensure RD&E is targeted and reflects the needs of the regions represented.

The GRDC Western Panel provides advice on the investment in the full range of opportunities for GRDC investment in 'blue sky' and targeted areas such as pre-breeding molecular research and the development of new functional traits, new actives for herbicides, new technologies, product quality and processing technology for grains.

The GRDC's Regional Cropping Solutions Network (RCSN), with some 50 participating growers and advisers from across the WA Port Zones, forms an important part of the identification and validation of the R&D priorities for WA, especially for agronomic research priorities.

The WA grains industry considers the framework in place delivers the strategy objective of focused farm productivity R&D. That said, there needs to be a continuous improvement in the processes that allocate these funds, particularly the longer term strategic research, to ensure WA grain producers paying these levies get maximum value for their investment in RD&E.

Strategy Lead (Priorities): GRDC; with consultation in WA with GIWA, DAFWA, grower groups, AAAC WA and the commercial sector.

¹⁰The Primary Industries and Energy Research and Development Act (1989), Australian government

Strategy actions

Critical success factor: Access to capital

Several of the strategy action areas will require substantial new capital investments. Business cases will need to be built for specific projects and activities to attract the necessary private and public investment required to action the strategies.

An area of concern is the limitation of the potential investment from equity markets, investment banks and superannuation funds due to the image that agriculture is a poor investment. There are also barriers through the imposts of stamp duty on farm land transactions and capital gains regimes that do not exist in some competing grain producing countries. More work needs to be done on innovative ways to attract capital into the industry.

In particular, capital is most likely to be needed in the following areas:

Optimise the grain handling and transport infrastructure

- > Rail and road infrastructure, trucks and rolling stock.
- > Storage – port terminals, up country and on farm storage.
- > Port – bulk and container loading equipment.

Identify value adding opportunities

- > Processing facilities and infrastructure (in WA and overseas).

Provision of essential regional technology infrastructure

- > Doppler radar stations in the grainbelt.
- > Mobile communications infrastructure.

Build farm business resilience

- > Innovative finance and insurance packages to manage weather risk.
- > External equity into professional ‘investment ready’ farm businesses.

Skilled industry personnel

- > Skills audit (gap analysis) for all parts of the grain supply chain and address gaps through the development of appropriate training and tertiary courses.

Focused farm productivity R&D

- > Investment in innovations and getting new technologies to growers, agribusiness and the customers of Australian grain.



Abbreviations

(In alphabetical order)

Abbreviation	
AAACWA	Australian Association of Agricultural Consultants WA Incorporated
ADA	Australian Department of Agriculture
AEGIC	Australian Export Grains Innovation Centre
AGI	Australian Grain Institute
AOF	Australian Oilseeds Federation
BoM	Bureau of Meteorology
CCIWA	Chamber of Commerce and Industry of Western Australia (Inc.)
COGGO	Council of Grain Grower Organisations
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFWA	Department of Agriculture and Food, Western Australia
DSD	Department of State Development, Western Australia
FMIA	Farm Machinery & Industry Association of WA Inc.
GGL	Grain Growers Limited
GIMAF	Grains Industry Market Access Forum
GIWA	Grain Industry Association of Western Australia Inc.
GM	Genetically Modified
GTA	Grain Trader Association
GrainGuard	GrainGuard coordinates the approach between the grain industry and the WA government to protect the WA's grain industry through minimising biosecurity risks to production and markets.
GRDC	Grains Research and Development Corporation
mmt	Million metric tonnes
PHA	Plant Health Australia
RfR	Royalties for Region
R&D	Research and development
RD&E	Research, development and extension
RCSN	Regional Cropping Solutions Network
SGNR	Strategic Grain Network Review
WA	Western Australia
WQA	Wheat Quality Australia





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