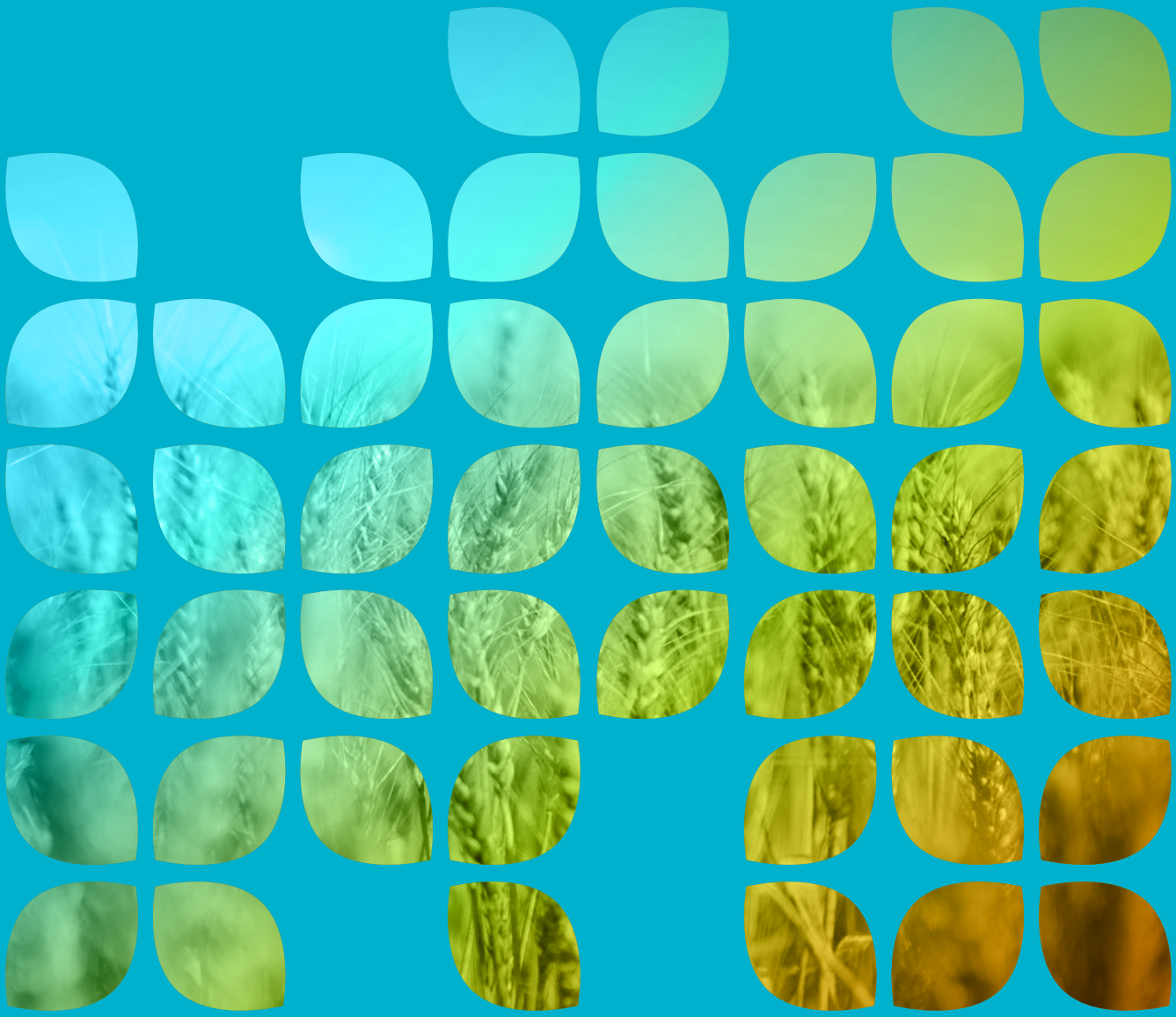


# Strategic Priorities for the Western Australian Grain Industry 2035+

December 2025

Growing Western Australia's agricultural powerhouse

# Contents



# Vision

## 30 million tonnes of WA grain—growing a $20 billion/annum sustainable future.

To realise the vision, this report sets out the strategic priorities for the Western Australian grain industry that have the greatest potential impact over the decade to 2035.

The five strategic priorities identified all require a shared understanding and the collective involvement and support of key industry stakeholders. They have been identified through extensive industry consultation and are presented here to guide collaborative industry action. While focussing only on these five strategic priorities, the critical importance of the many other issues that are 'business as usual' for growers, businesses and organisations involved in the grain industry is acknowledged.

The five strategic priorities are interrelated and the order these are shown in does not imply an order of priority:

- **Market access** – market agility in a volatile trade environment
- **Supply chain infrastructure** – get grain to market fast and efficiently
- **Research, development and extension delivery system** – boosting WA's RD&E delivery capacity and impact
- **Sustainability** – world leaders in sustainable rain-fed grain production
- **Industry value** – unified messaging on the grain industry's economic value and quality and sustainability credentials

A number of commodity specific issues were also identified during the consultation process. These were recorded and have been shared with State and national organisations for which these issues have relevance.

Critical to achieving this vision is the ongoing profitability and resilience of the entire Western Australian grain value chain. This requires growers and all in the value chain to continuously innovate and collaborate to adapt to climate change, manage seasonal variability, rising input costs, market price fluctuations, evolving customer requirements, and the impact of government regulations and policies. The contribution of the WA grain industry to the economy depends not only on the productivity of grain growers but also on the efficiency, reliability, and competitiveness of all stages of the supply chain, ensuring value is created and shared from paddock to plate.

# Strategic priorities for the WA grain industry to 2035+

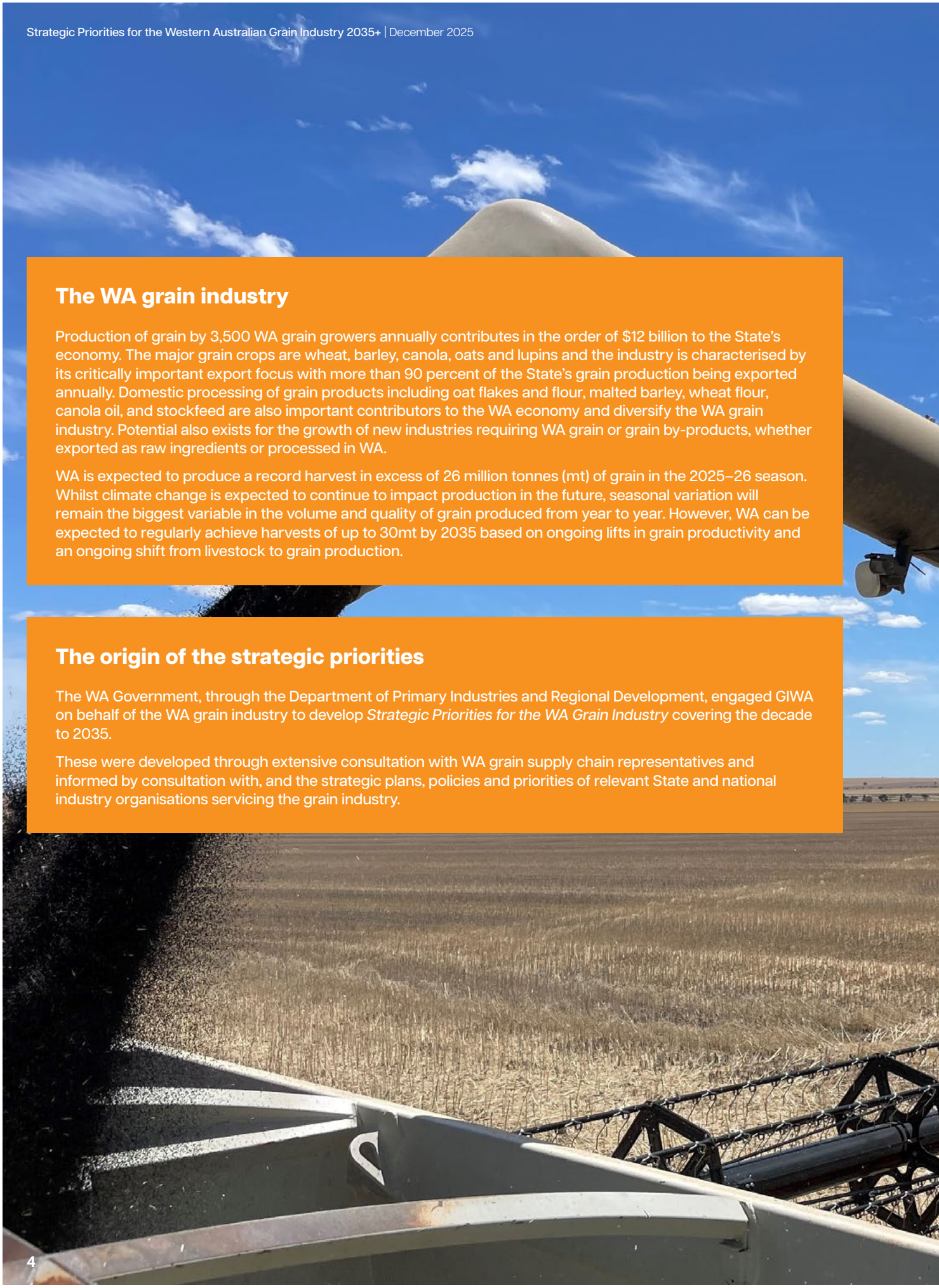
**INDUSTRY VALUE**
Unified messaging on the grain industry's economic value and quality and sustainability credentials

**MARKET ACCESS**
Market agility in a volatile trade environment


**SUSTAINABILITY**
World leaders in sustainable rain-fed grain production

**SUPPLY CHAIN INFRASTRUCTURE**
Get grain to market fast and efficiently

**RESEARCH, DEVELOPMENT AND EXTENSION DELIVERY SYSTEM**
Boosting WA's RD&E delivery capacity and impact



## The WA grain industry

Production of grain by 3,500 WA grain growers annually contributes in the order of $12 billion to the State's economy. The major grain crops are wheat, barley, canola, oats and lupins and the industry is characterised by its critically important export focus with more than 90 percent of the State's grain production being exported annually. Domestic processing of grain products including oat flakes and flour, malted barley, wheat flour, canola oil, and stockfeed are also important contributors to the WA economy and diversify the WA grain industry. Potential also exists for the growth of new industries requiring WA grain or grain by-products, whether exported as raw ingredients or processed in WA.

WA is expected to produce a record harvest in excess of 26 million tonnes (mt) of grain in the 2025–26 season. Whilst climate change is expected to continue to impact production in the future, seasonal variation will remain the biggest variable in the volume and quality of grain produced from year to year. However, WA can be expected to regularly achieve harvests of up to 30mt by 2035 based on ongoing lifts in grain productivity and an ongoing shift from livestock to grain production.

## The origin of the strategic priorities

The WA Government, through the Department of Primary Industries and Regional Development, engaged GIWA on behalf of the WA grain industry to develop *Strategic Priorities for the WA Grain Industry* covering the decade to 2035.

These were developed through extensive consultation with WA grain supply chain representatives and informed by consultation with, and the strategic plans, policies and priorities of relevant State and national industry organisations servicing the grain industry.

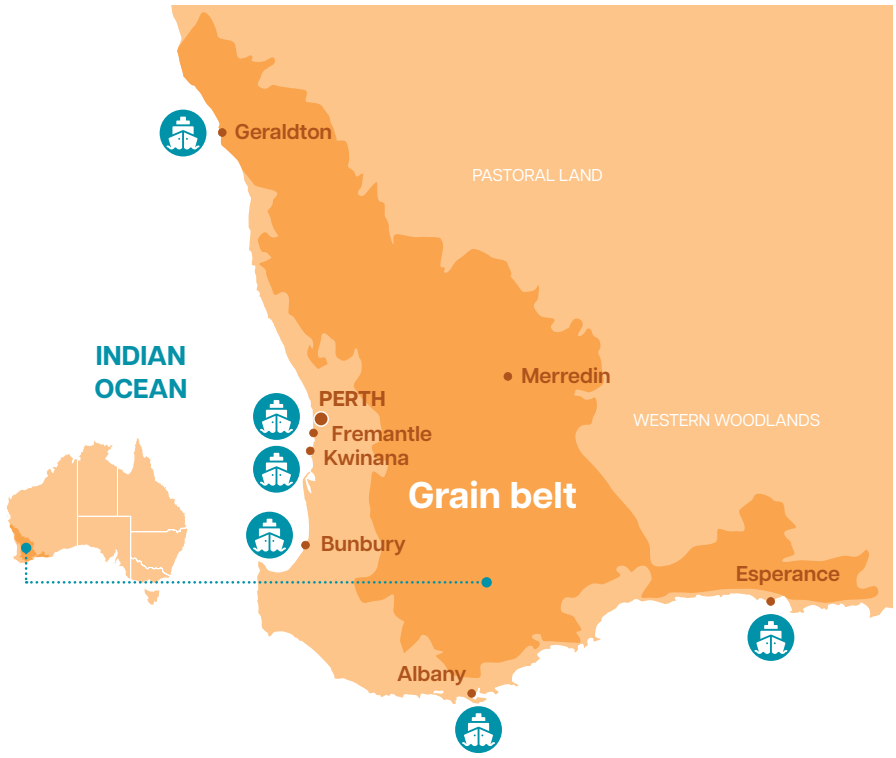


**Photo credit** *Ben White.*

# Snapshot

## WESTERN AUSTRALIA'S GRAIN BELT

Western Australia's grain belt is situated in the south west corner of the State; bordered by state forest to the west and nature reserve and pastoral land to the east, and experiences a Mediterranean climate




**17.5m ha**
cleared agricultural land

**9m ha**
grain crops

**7.6m ha**
diverse native vegetation

## Climate

Relatively reliable winter rainfall & hot dry summer

## Soils

WA soils are naturally low in fertility, low in water-holding capacity & many have naturally low pH

## 3500

Grain farms, between 2000–20,000 ha, 90% family owned

## INVESTMENT

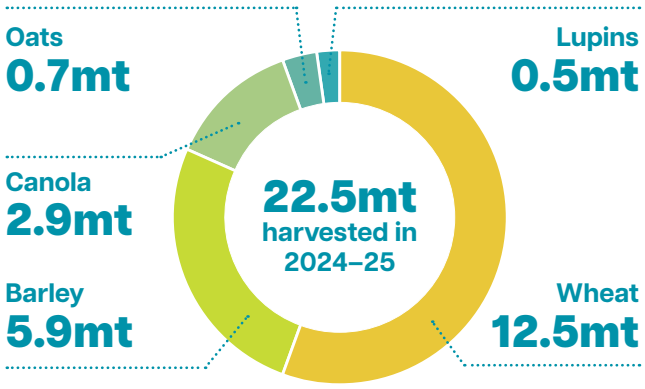
The WA grains industry invests in its future, supporting research, development, and extension

WA grain growers contribute annually

**$60 million**
in RD&E levies

**$8 million**
in State Biosecurity Levies

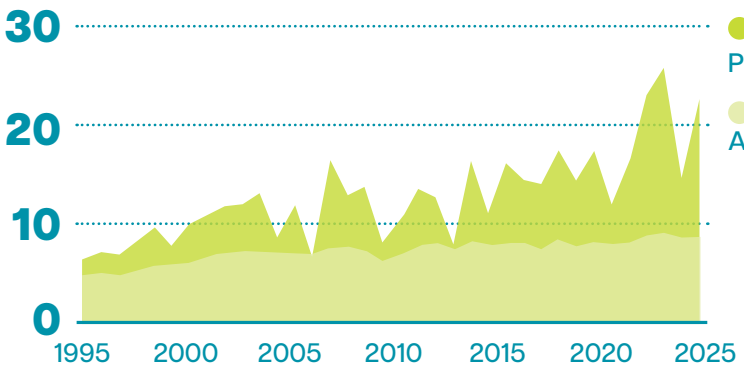
# PRODUCTION




**$12 billion**

Gross Production Value

Western Australia has tripled its grain production over the past 30 years

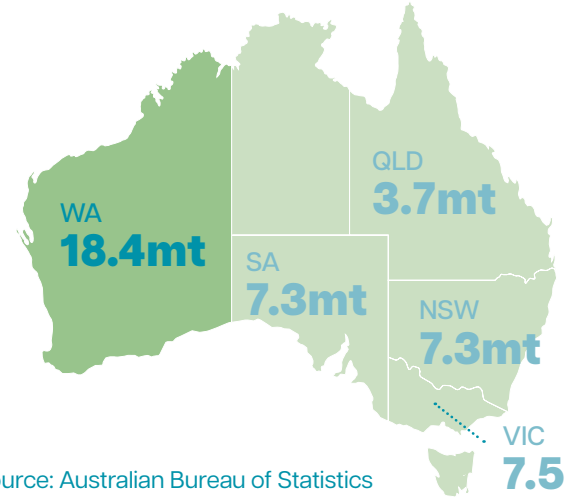



## Yield

Yield (t/ha) is increasing from better varieties, improved agronomy & scale-up efficiencies and is outpacing the declining rainfall trend

# EXPORTS

Bulk exports by state: 5-year average (2021–25)




Source: Australian Bureau of Statistics

**44.2mt**

**AUSTRALIA**
Total (bulk)

## WA

Australia's largest producer and exporter of wheat, barley, canola, oats and lupins

**>90%**

of the WA crop is exported

# Strategic priorities

## MARKET ACCESS

### Market agility in a volatile trade environment.

The decade ahead to 2035 is facing a period of increased uncertainty and market disruptions as the world order for trade resets and grapples with the balance between national self-interest and the inherent benefits of free trade.

A combined top-down and bottom-up approach is critical in developing and maintaining market access. From a bottom-up perspective, working with overseas customers to assist them to evaluate and source Australian grains helps them to influence their government's policies and remove or reduce the impact of trade restrictions. It is in their commercial interest to do so.

From a top-down perspective, it is important for foreign governments to understand the value proposition of Australian grain, and for Australian government officials to be fully informed on all aspects of the Australian grain supply chain and the impacts and consequences of trade barriers.

## CURRENT STATE OF PLAY

Geopolitically, global trade is becoming more difficult. Conflicts, impeded freight routes and market barriers have all impacted WA's grain marketing patterns in recent years. Protectionism is likely to see constant changes to tariffs, sanctions and quotas affecting global grain trade. Changes in consumer preferences and government policies both in Australia and internationally in relation to environment, social and governance (ESG) issues, biofuels and food security are also expected to add to the uncertainty surrounding market conditions.

Australia has traditionally been disadvantaged by the levels of subsidisation and government policies in other countries which compete for our export markets. This is more likely to increase than decrease in the current geopolitical environment.

Non-tariff barriers, including phytosanitary requirements, remain a key area of disruption and uncertainty underpinning market access. Meeting importing countries requirements to demonstrate pest, weed and disease freedom or compliance with requirements relating to the presence of certain chemicals, toxins and heavy metal contaminants are a direct industry cost.

While biosecurity is a whole of society issue, the Australian Government has responsibility for maintaining barriers to entry for human, animal and plant diseases, pests and weeds. Protecting Australia's biosecurity status is also critical to maintaining market access. As trade-limiting pests such as Khapra Beetle or Karnal Bunt are not currently in WA, it remains critical we continue to keep them out. Biosecurity preparedness requires industry and government cooperation, with contingency planning, surveillance and diagnostic capacity being critical elements.

## IMPACT

WA exports more than 90% of its grain production and is consequently impacted by global market access issues more than any other Australian grain producing state. The impact of major changes in international trade patterns due to the imposition of tariffs and non-tariff barriers, embargoes and subsidisation can have large positive or negative impacts on access to specific markets and the value of WA's grain exports. The introduction of an 80% tariff on barley by China in 2022 provided clear evidence of the impact geopolitics can have on global trade.

Predicting the introduction of a specific market barrier such as the Chinese barley tariff, import quotas or a new phytosanitary requirement is almost impossible, but it is almost certain there will be material market access disruptions over the next decade that will impact WA's export grains.

Some industry sectors are concerned that the pursuit of higher yields is compromising some grain quality attributes, increasing the reliance on feed markets to absorb lower-specification grain. Strategic consideration is needed to address how growing volumes of feed grain will remain competitive against other international suppliers over time.

# MARKET ACCESS *cont...*

## RECOMMENDED ACTIONS

### Strengthen government-to-government trade facilitation

As the largest grain exporting state in Australia, and therefore the most vulnerable when exposed to trade disruptions, it is imperative that the interests of the WA grain industry are strongly embedded in the machinery and processes for government-to-government facilitation of Australian grain trade. The Department of Foreign Affairs and Trade (DFAT) has the clear responsibility for government-to-government trade negotiations and market access facilitation. In addition to DFAT, the Department of Agriculture, Fisheries and Forestry (DAFF), Austrade and the WA Invest and Trade Offices (WATO's) need to be regularly briefed on specific risks and opportunities for the WA grain industry. Grains Australia, Grain Trade Australia (GTA), the Department of Primary Industries and Regional Development (DPIRD), the Grain Industry Association of Western Australia (GIWA) and the Australian Oilseeds Federation (AOF, for matters concerning oilseeds) should work closely together to proactively and regularly provide these briefings on behalf of the WA grain industry.

Grains Australia, GIWA, the Co-operative Bulk Handling Group (CBH) and DPIRD regularly collaborate to service inbound government and commercial grain-focused trade delegations visiting WA and each needs to be adequately resourced to continue to undertake this important function.

### Maintain strong WA involvement

Grains Australia has a critical role in providing market education and market access support functions to enhance the competitiveness and profitability of the Australian grain industry. It is imperative that Grains Australia is well resourced to undertake its market access and market education functions.

Grains Australia and GTA have primary roles in providing advice and input into the Australian Government trade negotiations through DFAT, with AOF having input into matters specific to oilseeds.

With WA's dependence on export, it is essential that the WA industry has a strong representation and involvement in these organisations and provides support for those services that promote and assist the WA grain industry to meet the needs of our customers.

### Establish a Perth-based 'shop front' for export customers

There is an opportunity to create a Grains Australia 'shop front' to promote Australian grain quality and ESG credentials to frequently visiting grains-focused government and business trade delegations. The lack of a destination shop front in the nation's biggest grain exporting state is a clear gap compared to similar initiatives by Australia's major grain export competitors.

### Enhance industry biosecurity awareness and diagnostic capacity in WA

Biosecurity risks to WA grain export markets are managed by Federal and State Governments in conjunction with Plant Health Australia and supported by Federal and State Government investment in diagnostic services, and government and industry investment in surveillance.

The Australian Government needs to provide adequate resources to ensure strong borders to prevent entry of biosecurity risks and deal with any incursions promptly and effectively.

Given the risk of a real or alleged detection of a high-risk pest in WA grain exports, it's essential that DPIRD has modern diagnostic labs and sufficient resources to conduct scenario testing and respond rapidly to biosecurity threats.

Strong and regular communication and information sharing between government and industry is vital for incident contingency planning, to improve pest and disease surveillance, and to ensure a timely response to any biosecurity threat or incursion.

## INDICATORS OF SUCCESS

- Grains Australia is well supported by industry to fulfil its market access and market education functions.
- Establishment of a Grains Australia 'shop front' in Perth for Australian grain exports.
- WA retains its status as a low biosecurity risk grain exporter.
- Minimal trade related constraints due to the collaborative efforts of industry and government.

# SUPPLY CHAIN INFRASTRUCTURE

## Get grain to market fast and efficiently.

CBH is by far the most significant operator and owner of supply chain assets in WA, but it relies heavily on public infrastructure such as rail, port facilities and roads as well as the services of independent suppliers such as freight providers and rail asset operators. Between 85 and 95% of grain harvested each year passes through CBH storage and handling services.

The other established exporters, Bunge and container packers as well as local processors, manage some or all of their own transport, storage, handling and shipping, but also access CBH services for grain via domestic outturns into their respective businesses. There is also some opportunistic bulk loading outside of the CBH supply chain in ports other than Kwinana.

Farm to receival storage is exclusively by road using farmer owned trucks and contractors, with a mix of road and rail to move grain to port. There has been a 70% increase in the average amount of bulk grain transported to the State's ports in the last five years compared to the average 12 years ago. An average of 3.9mt per year was transported by road and rail to Albany port over the past five years; 3.1mt to the ports of Esperance and Geraldton; and 8.2mt to Kwinana. Whilst CBH manages its capital infrastructure for its up country receival depots, the State rail network used by CBH to get grain to port on rail is leased and managed by ARC Infrastructure, a subsidiary of the Canadian multinational Brookfield Corporation.

The State and Federal Governments provide the bulk of the capital funding for the rail and port upgrades and upgrade of roads which are used by the grain industry. Major road upgrades are managed by Main Roads WA which has a rolling 20-year investment priority plan. Local government also has a significant role in managing local roads.

# SUPPLY CHAIN INFRASTRUCTURE *cont...*

## CURRENT STATE OF PLAY

Approximately half of the grain intended for bulk or container export is transported to WA's ports by road, while the other half is moved by rail.

In 2025 the Cook Government announced plans to 'buy back' the 49-year lease of rail assets which a previous State Government had privatised. In announcing the Government's intent, the media release provided the following explanation of why the Government was taking this action:

**"This is all about supporting our plans to diversify our economy, unlock future local jobs and retain WA's economy as the strongest for future generations. Supporting the growth of our critical industries is a key priority for our Government and bringing freight rail back into public hands is a key way we can do that. The demands on the State's freight rail network have grown significantly and we want to make sure we're moving as much by rail to and from our ports as possible. Rail is the most efficient way of moving our goods to and from the ports, and with greater control, we can ensure Government investment promotes better use of the network."**

Meanwhile, rising truck load sizes - from 25 tonnes in 2002 to 62 tonnes in 2023 - are increasing pressure on roads, prompting ongoing upgrade demands. The Department of Transport and Major Infrastructure (DTMI) is developing a new regional freight strategy, alongside the Revitalising Agricultural Region Freight Strategy and the South-West Supply Chain Strategy, which will influence grain exports via Bunbury Port.

The containerised export of raw and processed grain from WA is significant. Oats, oat flakes, barley, malt and pulses are all commonly containerised for export. Smaller niche crops that can become highly valuable crops are invariably established through the container trade. However, WA's container supply chain is expensive and dependent on the aging Fremantle port infrastructure. Challenges include high stevedoring and port charges and limitations to food grade sea container and vessel availability. Planning for a new Westport container terminal to replace the current facilities in Fremantle Harbour has commenced, but Westport is unlikely to be operational until well after 2035.

## IMPACT

The value of WA's grain exports relies heavily on the ability to ship as much grain as soon as possible in the six-month period after harvest to take advantage of the higher prices on offer prior to the northern hemisphere harvest commencing.

From an export capacity perspective, in addition to that exported via the CBH system (the annual record being 19.7mt in 2023), Bunge exports up to 1mt, container packers can export between 500kt and 1mt and domestic value adders such as malting and oat milling export another 500kt of grain products. All parts of the supply chain have grown over the past 10 years and will need to continue to grow to keep pace with harvest size. Failure to do so will create a supply chain capacity gap.

During the large harvests of 2021 and 2022, price differentials between market and local bid reached $100 per tonne due to the inability to get grain to port at the time of higher global prices. Estimates of the impact vary but range up to $1 billion in lost value to growers. In addition to not being able to realise value capture opportunities when they occur, unsold grain must be held incurring storage and working capital costs.

Shifting more grain by rail can reduce transport costs, increase road safety and reduce road network maintenance costs. Each additional million tonnes of grain moved by road requires around 12,500 road train movements, underscoring rail's importance.

Road infrastructure from receival sites to ports is also a significant barrier to fast and efficient grain export. Investing in infrastructure to remove these bottlenecks offers major benefits for the industry and the State.

Investment by the Australian and State Government in port infrastructure is a critical factor that impacts on the costs of shipping through vessel size and throughput constraints.

## RECOMMENDED ACTIONS

### Support the establishment of new ownership and management arrangements for the WA freight rail network

Investing in rail infrastructure to boost train speeds and load capacity would significantly enhance WA grain export value by enabling faster post-harvest shipping.

The WA Government has engaged Ernst & Young (EY) to assess the commercial value of the regional rail network, with a review due by February 2027. This will inform potential changes to the current lease and consider other users beyond the grain industry.

### Maintain a strong advocacy for State and Federal planning and investment in transport and port infrastructure

The State Government's focus on establishing the Westport container terminal and bulk cargo facilities at Kwinana is expected to dominate freight infrastructure budgets, limiting investment in regional ports and transport links over the next decade.

Major rail, road and port projects require long-term planning and complex government funding negotiations, and it is critical that changes in government policies and regional grain production patterns and volumes are taken into account.

As an example, developments associated with government policies with respect to biofuels could have substantive implications for infrastructure planning. Likewise, planning for government investment in transport and port infrastructure must take into account the needs of all operators to provide fit for purpose infrastructure for all existing users including new and potential exporters of grain in bulk and containers.

## INDICATORS OF SUCCESS

- The WA freight rail network to be under an ownership and management structure that allows investment and growth that drives efficiency for grain transport and optimises value for the State.
- Significant progress in the development towards a new container port at Kwinana and fit for purpose investment in all ports servicing the export grain industry.
- Efficient container and bulk export pathways across WA, ensuring access for existing and new entrants.
- Appropriate investment in roads for the efficient transport of grain to ports.

Photo credit *GIWA*.

# RD&E DELIVERY SYSTEM

## Boosting WA's RD&E delivery capacity and impact.

WA's internationally competitive grain industry has been built on decades of research and development (R&D) and grower innovation linked to extension (E) and advisory services which has seen numerous impactful practice changes and productivity improvements adopted by growers.

WA's soils, climate and grain farming systems are different to other parts of Australia, and vastly different to many other grain growing regions in the world. Whilst much of the genetic, agronomic and technical advances may have had their genesis from a global science effort, they have been tailored through local R&D to fit the WA production environment and the demands of existing and emerging export market opportunities.

There is a significant lag phase from when scientific discoveries are made, and the full industry impact is realised. In many cases it can take up to 30 years[1] (e.g. Genetically modified (GM) crops, new herbicides, new tillage systems). Currently the industry is harvesting the rewards of historic RD&E investment, including much of the R&D that will drive WA's ability to grow production to 30mt by the end of this decade. The long term, multidisciplinary cooperation between public and private sector R&D teams that is critical to successful implementation, such as the transformative direct drill cropping revolution in WA last century, is far less evident in the current R&D delivery system.

The increasing role that digital agriculture, data science, remote sensing, genetic engineering and other emerging technologies are playing in grain productivity research, and the use of Artificial Intelligence (AI) in data analysis and modelling, are all important considerations for forward-looking RD&E planning.

Photo credit *GIWA.*

## CURRENT STATE OF PLAY

Over the past 20-years the R&D delivery system in WA has become increasingly fragmented with specific science discipline expertise dispersed across a wider range of organisations and private businesses and an increasing proportion of R&D effort is deployed in discrete short-term projects. While there have been upsides, fragmentation has reduced multidisciplinary linkages and innovation synergies and there is less opportunity for engagement and co-design.

The focus on discrete short-term projects leads to young researchers missing out on co-learning opportunities with other scientists, farmers and the broader industry. In addition, the focus on short term projects does not provide a clear pathway for long term R&D career progression, particularly that which is available in entities with a larger critical mass and a diversity of experienced personnel.

Many in WA's grain industry believe WA's current R&D capacity, including infrastructure, expertise, and organisational support is inadequate to meet long-term needs of the industry.

The current WA RD&E delivery system is shaped by:

- DPIRD being impacted by legacy budget cuts from the former WA Department of Agriculture and Food resulting in a steady loss of grains RD&E expertise and ageing infrastructure,
- four universities and CSIRO in Perth are involved in different aspects of grain research and are also under budget pressure,
- a range of private consultants and private sector businesses providing specialist breeding, agronomic and crop protection expertise,
- grower groups engaging more directly in applied on-farm R&D, with the Grower Group Alliance supporting producer led innovation, adoption, collaboration, capacity building and training, and
- RD&E providers increasingly reliant on short term GRDC funded projects.

DPIRD maintains an applied grains R&D capacity in the regions and has stated its desire to strengthen collaboration across government, academia and the private sector to capture more funding for strategic science and to support longer term research programs[2]. DPIRD also provides critical capacity in biosecurity and protecting WA's natural resource base, as well as supporting industry development through applied research, building competitiveness, diversification and securing markets.

The GRDC expects to invest $1.5 billion in RD&E over the next five years and has robust processes to engage with growers and other sources to identify research priorities and apply different investment pathways to deliver outcomes[3]. GRDC investment policies focus on the entity considered best placed to lead and conduct aspects of the project and have a priority to engage with providers that can make appropriate co-contribution of resources to projects. Many projects may be led by RD&E providers in other states, or in some cases overseas, to address issues that are important to WA grain growers. While this may deliver the desired RD&E outcome, it does not grow WA's RD&E capacity.

There have been several attempts by DPIRD and the industry over the past two decades to explore and develop RD&E delivery models that would overcome the constraints arising from the reduction in public investment in grain RD&E capacity in WA. This has resulted in little significant change.

## IMPACT

The economic value of past grain research is easily demonstrated by the uplift achieved in grain yields against a warming and drying climate trend. Allowing for the decline in real prices and an increase in the area sown, the cumulative value of WA's additional grain production since 1990 is worth over $50 billion[4]. A large proportion of this productivity gain is likely attributed to better crop varieties and refined agronomic practices, with the remainder due to larger capacity machinery and efficiencies from larger scale farm operation.

The WA grain industry can expect on-farm productivity to continue to increase over the coming decade due to technology and innovation based on prior R&D. However, the long-term prosperity of the industry will be challenged unless there is sufficient investment in RD&E capacity to generate and foster adoption of further advances in grain productivity, resilience and adaptation to climate change, and to address product quality and sustainability attributes to meet the requirements of WA's export markets.

DPIRD is almost totally reliant on external providers to provide extension services, and the industry believes there is a significant risk that by 2035 there will be even less WA State Government investment in grain productivity R&D as the State Government justifiably prioritises biosecurity and environmental resource protection. It is also likely that the Federal Government will come under increasing fiscal pressure to reduce its matching contributions to grower research levies.

# RD&E DELIVERY SYSTEM *cont...*

## RECOMMENDED ACTIONS

### Optimise RD&E delivery in WA

RD&E capacity in WA needs to be better equipped and scaled to attract investment to increase profitable and sustainable production and meet the demands of export markets. While retaining core production research, the RD&E delivery system also needs to be agile and responsive to rapidly evolving industry needs.

There is a need for a comprehensive review of the capacity of the RD&E delivery system in WA with a focus on improving its capacity, effectiveness and ability to attract funding. There are a range of RD&E models working in Australia and overseas that can offer insights and there are valuable lessons to be learned from previous WA experience.

Issues to be reviewed should include:

- Understanding WA's current and future need for expertise, infrastructure and financial resources for strategic (basic) and applied grain RD&E.
- Reviewing alternative RD&E delivery models and processes for improved ways to engage the end-users of research in co-design and extension and facilitate integration of dispersed projects undertaken by multiple organisations into appropriate crop and farming systems for Western Australian grain production.
- Effective mechanisms for capacity building for RD&E personnel, with an emphasis on future-facing skills and attracting a pipeline of scientists and skilled personnel by demonstrating stable and rewarding career paths.
- Exploring options for colocation of RD&E personnel from multiple organisations, open sharing of research data while protecting intellectual property, and any other opportunities to decrease R&D costs and increase outputs.
- Ensuring DPIRD has the RD&E capacity to support biosecurity surveillance and control to support market access.
- Ways to encourage greater investment in WA based private research providers.

### Enhance the data science capacity in RD&E services

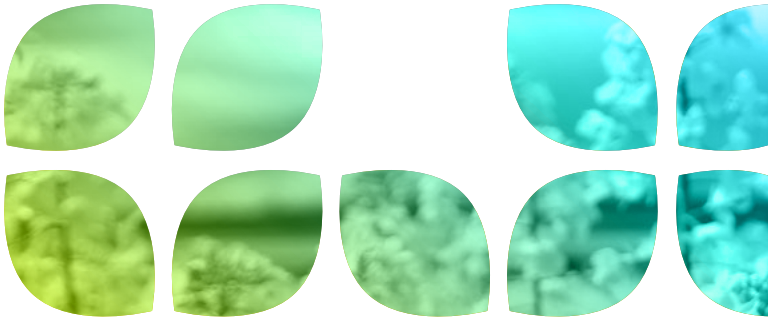
One of the biggest opportunities for the grain industry in the coming decade is expected to come from using data science tools to access and interpret the massive increase in data being generated and available from RD&E activities, farm production, plant breeding, grain quality, logistics and government policy decision making activities.

There is a need for a determined focus on upskilling, training and recruiting personnel with data analytics and AI skills to get the most value out of accessing and efficiently interpreting the available data.

One of the challenges to getting the most potential value from amalgamating data from a diverse range of sources will be the ability to gain access to data sets generated from grower information but held by multiple different private companies and organisations.

### Ensure the RD&E investment setting processes have access to advice on the priority issues from across the grain industry supply chain

There is an ongoing need for a whole of supply chain perspective into specific grain commodity research and investment priorities. The Grains Australia and GIWA Commodity Councils, by providing a perspective from across the supply chain, can make a valuable contribution to the investment strategies of RD&E funders and providers.



## INDICATORS OF SUCCESS

- Clarity in the State Government and DPIRD's specific roles as an investor and as a provider of grain R&D services for the next decade.
- An appropriate level of investment in capital infrastructure and core personnel by the State Government to attract increased GRDC and private sector investment in personnel and projects based in WA.
- An increased investment of GRDC funds on the ground in WA.
- A pipeline of next generation scientists and extension personnel with better defined career pathways, including in emerging technologies such as systems science, AI, and spatial analytics.
- Better connected and resourced cropping and grain product RD&E capacity with long term funding of programs to build capacity and sustain expertise.
- Appropriate linkages between applied research and universities involved in underpinning science, with potential co-location of public and private sector RD&E teams.
- Greater global technology provider partnerships working on WA grain industry issues.
- Strategic investment in high-risk, high-reward projects with potential to deliver significant breakthroughs.



Photo credit *GIWA.*

# SUSTAINABILITY

## World leaders in sustainable rain-fed grain production.

Western Australia's grain industry is recognised as a world leader in sustainable rain-fed grain production. WA growers and supply chain partners demonstrate exceptional flexibility and adaptability, ensuring the industry can quickly seize new opportunities and effectively overcome challenges. An example of this is the WA grain industry's sustained and effective response to understand and then manage the emergence of herbicide resistance in economically important weed species.

Government regulations on land use, chemical application, and gene technology, combined with industry codes of conduct and proactive self-regulation, provide strong assurance to customers and the wider community about the integrity and sustainability of our practices.

The lack of reliance on irrigation places WA among the most water-efficient cropping systems globally. Growers' commitment to soil health through the strategic use of lime, gypsum, and advanced mechanical amelioration techniques continues to enhance water and fertiliser efficiency, driving long-term productivity and resilience.

WA's unique geographic isolation, stringent biosecurity standards, and favourable dry harvest conditions significantly reduce chemical use for pest, weed, and disease management, while minimizing energy requirements for grain drying compared to other regions worldwide. The industry's early adoption of minimum and no-tillage systems has further strengthened soil conservation and water retention. Additionally, WA leads the world in grain storage technology, ensuring superior protection against insect damage and the presence of fungi and mycotoxins.

**Photo credit** *Ashley Wiese.*

## CURRENT STATE OF PLAY

### Sustainability credentials

Sustainability certification is opening doors to premium markets worldwide. For example, Australian growers already enjoy price premiums for canola in the European Union biofuel market. Beyond this, sustainability credentials create exciting opportunities to access other high-value markets, such as maltsters and brewers offering premiums for sustainably certified malting barley.

The Australian grain industry has some existing sustainability certification schemes and is developing new, innovative mechanisms and tools to help growers demonstrate sustainability and expand market access. Initiatives like Sustainable Grain Australia (SGA), led by the AOF, provide streamlined certification under the globally recognized International Sustainability and Carbon Certification (ISCC) scheme, simplifying compliance and positioning growers to access premium international and domestic markets. Similarly, CBH Group offers certification services to meet customer requirements, ensuring WA growers remain competitive and market-ready.

GTA has a Code of Practice for which compliance is mandatory for GTA members, and an ESG statement that provides members with voluntary self-management guidance on ESG matters.

Grain Growers Limited (GGL) and Grain Producers Australia (GPA) are developing an Australian Grains Sustainability Framework (GSF) for tracking and reporting the sustainability performance of Australian grain farming at a macro level. It is intended to provide a national-level view, using evidence-based data and a transparent, impartial approach, further enhancing Australia's reputation as a trusted supplier of sustainable grain.

### Reducing emissions intensity

The coming decade presents a significant opportunity for the grain industry to lead in emissions reduction and strengthen its global competitiveness. As Australian Federal and State Governments develop and adopt sector targets to meet international commitments and buyers of Australian grain seek to decarbonise their own supply chains, growers who adopt low-emission practices will be well-positioned to capture new market opportunities and meet emerging sustainability targets.

The Australian Government's ambitious goal of reducing GHG emissions by up to 70% by 2035 and achieving net zero by 2050, while potentially requiring some practice changes and additional reporting, also creates a pathway for innovation.

The Carbon Neutral Grain Pilot project[5], which examined WA's grain production GHG emissions, found that more than 70% were from Scope 1 on-farm operations and that fertiliser and crop residues contribute more than 50% of these. Most remaining emissions come from Scope 3 pre-farm sources, and 95% of these are generated during the production of fertilisers, herbicides and pesticides. Scope 2 emissions are negligible at the on-farm stage of crop production. This highlights areas for potential improvement and innovation, such as further optimising fertiliser use and crop residue management, unlocking potential for cost savings, efficiency gains, and premium market access.

### Nature Positive

Global demand for nature-positive practices is accelerating as agricultural businesses and food supply chains across the globe are increasingly being required to adopt nature-positive policies and nature-related financial disclosures to align with investor and market expectations. Consequently, a number of banks and finance institutions that operate in Australia are currently considering the need to introduce natural capital accounting requirements for clients. While the specific implications for grain farming in WA are still uncertain, many WA farmers already implement practices that enhance soil health, optimise inputs, and diversify rotations, providing them with a strong foundation to meet potential future requirements and attract related investment.

The Australian Government is expected to introduce Nature Positive laws early in the next decade as part of its broader Nature Positive Plan[6], designed to balance environmental protection with sustainable development. These laws will likely include mandatory disclosures for large businesses and financial institutions on their impacts and dependencies on nature by 2030. While the specific implications for grain farming are still being defined, this presents an opportunity for the grain industry to help shape practical regulations and compliance frameworks.

### Pesticide Safety

There is a comprehensive suite of legislation and regulations covering the use of pesticides (herbicides, insecticides and fungicides) which ensure high standards of safety and environmental protection in Australia. The industry is however becoming increasingly concerned that restrictions applied to farming practices in destination market countries, particularly pesticide use, are being imposed on Australian growers through the sustainability certification measures required to access those markets, but which ignore the often vastly different environment and farming systems in Australia.

# SUSTAINABILITY *cont...*

### Land Use

Although renewable energy projects and carbon offsetting initiatives are reshaping land use, they also create unique opportunities for collaboration. By directing carbon offset investments toward degraded or marginal land, WA can achieve large-scale revegetation, improve biodiversity, and manage salinity, while unlocking new revenue streams for growers and preserving productive agricultural land for food production. This is a once-in-a-generation chance to align agricultural productivity with environmental stewardship and regional development.

### Biofuels

The global biofuel market is expanding quickly, driven by decarbonisation goals and energy security needs. Sustainable Aviation Fuel (SAF) is a major focus, with airlines and governments investing heavily to cut aviation emissions, and governments worldwide are implementing biofuel blending mandates and offering incentives to scale adoption. Biofuels are seen as critical for hard-to-electrify sectors, but future growth depends on addressing feedstock sustainability, land-use impacts, and lifecycle emissions.

## IMPACT

Sustainable farming practices that optimize resource use not only lower input costs but also boost productivity and profitability. By reducing fertiliser, pesticide, and fuel use per tonne of grain, growers can save money and improve efficiency. Innovations such as legume rotations to enhance soil fertility, nitrogen inhibitors for better nutrient efficiency, and precision agriculture technologies like variable rate application and targeted weed spraying minimize waste and maximize crop health, creating a strong foundation for future growth.

Nevertheless, satisfying regulatory and consumer expectations in our markets can lead to requirements for practice changes, such as can result from limiting or banning the use of a particular chemical, that can potentially add to production costs, force a return to environmentally unfriendly cultivation practices to manage weeds, reduce the competitiveness of Australian grain exports, and in some cases act as a market access barrier.

Over the coming decade, the WA grain industry is expected to face growing pressure to meet sustainability criteria set by buyers of Australian grain and to comply with government regulations addressing emissions reduction, nature positive and other sustainability goals.

Farmers are concerned that this will be accompanied by burdensome and costly requirements to measure and report on sustainability parameters, and expensive and potentially restrictive requirements to change their management practices. There is concern that public opinion, which may not always be based on scientific evidence, is increasingly influencing government decision-making globally and could lead to challenges for Australian farmers in maintaining critical farming practices.

Future R&D on farming practices will need to have a strong focus on reducing emissions intensity (GHGs per tonne of grain produced). Fortunately, our low rainfall, limited runoff and ephemeral waterways in the grain producing areas of the State reduce runoff risks, a key nature positive concern in other regions.

Financial and insurance institutions are also increasingly aligning with carbon and natural capital markets, offering incentives like differential premiums to support sustainable practices. Though not yet widespread, this trend is expected to grow significantly over the next decade driven by customer and shareholder expectations.

The Australian Government now requires large companies to report baseline emissions and reduction efforts, and this is likely to be extended to smaller businesses. It has also introduced the Australian Carbon Credit Unit (ACCU) Scheme, which enables growers to trade carbon credits, creating new revenue streams and encouraging innovation. More WA grain growers are expected to register projects to offset their own emissions or to monetise emissions reductions.

Profitable and sustainable grain farming in WA will continue to require inputs in the form of chemicals, fertilisers and energy for machinery. It is therefore highly unlikely that grain production can achieve net zero emissions without production-limiting on-farm revegetation or investment in off-farm offsets.

The global transition to biofuels is creating a major growth opportunity for Western Australian grain growers. Demand for renewable diesel and biodiesel, especially in Europe and Asia, is driving strong interest in canola as a preferred feedstock. With WA producing over half of Australia's canola and enjoying a reputation for sustainable, rain-fed farming, plus access to certification schemes like ISCC, WA growers are well positioned to secure price premiums in international biofuel markets.

## RECOMMENDED ACTIONS

### Strengthen Industry–Government collaboration on sustainability

The challenge is to move the focus of the discussion away from ideology to profitable grain farming that meets sustainability goals through efficient resource use.

There is a need for greater collaboration between industry and government to provide clear, consistent guidance and direction on sustainability initiatives, opportunities, and requirements relevant to the WA grain sector.

This should include:

- Support for the development and recognition of sustainability frameworks and certification products that reflect both policy goals and practical realities for growers.
- Improved communication and coordination across agencies and industry bodies to reduce confusion and duplication.
- Accessible information and tools to help growers understand and respond to emerging sustainability expectations, including carbon accounting, biodiversity stewardship, and soil health.
- Joint investment in extension services and training to build capacity and confidence across the sector.

A coordinated approach will ensure growers are supported to make informed decisions, adopt best practices, and contribute meaningfully to WA's broader sustainability and emissions reduction goals.

### Support growers and industry participants to understand which practices most affect GHG emissions in their operations.

Growers need to understand the sources of farm emissions and collect data to report emissions intensity to be able to unlock future market opportunities and comply with regulatory requirements that may come into effect in the coming decade.

WA farmers already have access to programs and resources to reduce emissions and explore carbon farming, with demand for these expected to grow. Establishing baseline emissions is a key first step to meet future reporting needs and strengthen WA's position in global markets.

A universal carbon accounting model is still lacking, and scaling farm-level data to industry-wide totals remains a challenge. Accelerated work is needed to standardise and simplify emissions measurement nationally and globally.

Given the majority of WA's grain moves through a co-mingled grain storage and handling system, the goal should be to aim for scaled up data that represents port zones or particular cropping practices. There may also be opportunities for segregating low carbon grain for niche markets.

### Prioritise investment in collaborative RD&E projects that lead to lower emissions intensity for grain production

Reducing nitrogen fertiliser emissions is key to lowering GHGs. Solutions include green ammonia, slow-release fertilisers, improved crop breeding, and legumes. Precision agriculture using Artificial Intelligence (AI) tools, satellite imagery, and yield mapping enables targeted application of fertilisers, lime and pesticides, reducing emissions per tonne of grain.

Alternatives like biostimulants and biologicals have potential to reduce synthetic pesticide use.

Soil amelioration can markedly improve water and fertiliser use efficiency. While most WA grain production is on inherently infertile soils, opportunities exist to improve soil biology and soil health.

Investment in RD&E and industry collaboration is essential to deliver practical, region-specific solutions that balance productivity and sustainability. Priorities include:

- carbon farming and revegetation on low-productivity land,
- climate adaptation knowledge and tools for managing increasing seasonal variability and extreme weather events,
- biodiversity enhancement through remnant vegetation management and revegetation, and
- soil health as a foundation for long-term productivity and resilience.

# SUSTAINABILITY *cont...*

### Ensure land use planning prioritises productive agricultural land

All levels of government need to adopt land use planning policies that ensure productive agricultural land is not disproportionately impacted by alternative land uses including renewable energy projects and carbon emission offsetting activities by carbon-intensive industries.

### Position WA to be the focal point for biofuel production in Australia

Western Australia is a geographically large and isolated state, heavily reliant on imported fuel. Canola is a profitable crop for WA growers and the state's grain storage and handling infrastructure is well suited to supporting large scale canola crushing and refining. An opportunity exists to attract industry and government investment in processing infrastructure to position WA as the focal point for biofuel production in Australia. This would create alternative revenue streams for growers, likely generate regional jobs, and decrease reliance on imported fuels, but will require government policies or mandates and offtake guarantees to trigger the large-scale investment required to crush and refine canola at the required volumes.

## INDICATORS OF SUCCESS

- The Grains Sustainability Framework, developed by GPA and GGL, is internationally recognised as demonstrating the Australian grain industry's strong sustainability credentials and commitment to best practice.
- Sustainability certification services are available to meet customers specific demands and are cost effective.
- R&D investment delivers locally applicable solutions to reduce WA grain industry GHG emissions intensity and address nature positive goals to improve biodiversity and soil health.
- Standardised baseline measurement and reporting of GHG emissions across the grain supply chain from farm to customer.
- Evidence that WA grain GHG emissions intensity is reducing over time and meeting targets set by the Australian and State Governments.
- Productive agricultural land is not disproportionately impacted by alternative land uses including renewable energy and carbon emission offsetting projects, and investment in these projects is directly benefiting farmers and regional communities and delivering positive biodiversity outcomes.
- WA is a focal point for Australian biofuel production.

# INDUSTRY VALUE

**Unified messaging on the grain industry's economic value and quality and sustainability credentials**

There is a lack of unified messaging to highlight the grain industry's economic value and its sustainability and quality credentials to Australian governments, the Australian public and our international markets.

Photo credit *DPIRD.*

# INDUSTRY VALUE *cont...*

## CURRENT STATE OF PLAY

Multiple national and WA organisations speak for the grain industry, but there is currently poor coordination of messaging to governments, the public, or export markets. However, the recently increased resourcing for Grains Australia working collaboratively with Grade Trade Australia, presents an opportunity to coordinate and elevate the amount, quality and consistency of industry communications.

Without coordinated messaging, the grain industry's economic value and sustainability efforts risk being undervalued or misunderstood by the public and policymakers.

Consumers are increasingly relying on social media as a primary source of information. Public and consumer expectations around issues such as food safety and sustainability—often shaped by opinion and ideology rather than science and initiated or propagated by social media influencers—can impact the profitability of grain farming and potentially even freedom to operate. The advent of AI tools has seen a step-change in how internet-based content can be discovered and summarised, which increases the risk of consumers being misled simply by the search terminology they used, or by incorrect or malicious information on the internet.

Emissions reduction, biodiversity protection, and nature-positive practices are rising priorities, alongside long-standing concerns about pesticide use. Gene technology also continues to be subject to divided acceptance in the marketplace.

To avoid unnecessary or ill-informed regulatory and market barriers being introduced and consequential increased production costs, the grain industry must regularly and clearly demonstrate it meets the expectations of governments and customers.

## IMPACT

Over the next decade, the WA grain industry will face growing demands in five key areas.

- **Market access:** sustainability certification and compliance with ESG targets is increasingly required by global buyers, with the European Union (EU) leading the way—initially impacting most on canola and lupin exports.
- **Regulation:** Governments are moving toward mandatory emissions and nature-positive reporting, increasingly requiring businesses, including farm enterprises, to track and disclose environmental impacts and demonstrate measurable improvement.
- **Finance:** Banks and insurers are indicating they will favour low-emission farms, likely offering better terms to ESG-aligned operations.
- **Public perception:** Misinformation or lack of trust in Australia's gene technology and agricultural chemical regulators could threaten access to essential inputs and future crop varieties.
- **Land use:** Productive agricultural land is increasingly coming under pressure from demand for land for renewable energy projects and carbon offsetting activities for carbon-intensive industries.

Failure to address consumer and buyer concerns risks losing market access, diverting grain to lower value uses, or increasing costs, thereby threatening market viability.

Banning of critical inputs could have a catastrophic impact on productivity. No-till farming, which reduces soil erosion, improves soil structure and moisture retention and boosts yields, relies on effective chemical weed control. A change to a more expensive or less efficacious suite of herbicides or reverting back to delayed sowing and aggressive tillage practices would increase costs, increase erosion, reduce yields and increase carbon emission intensity.

Genetic technologies offer productivity and health benefits, but public mistrust could block their use.

Agriculture is often overlooked by metropolitan voters and politicians. As WA's largest agricultural sector, the grain industry must be recognised as vital, sustainable, and economically significant. It delivers strong regional employment and community benefits and is a major contributor to the wealth and diversity of the State's economy.

Consumers are more likely to be focused on ESG issues related to livestock and horticulture and it is important that the grain industry works in concert with the other agricultural industries in messaging to consumers. Lessons from the mining sector could help build public trust. Without public support, regulatory pressure and financial penalties imposed by banks and insurance companies seeking to de-risk their investments could limit the industry's freedom to operate.

## RECOMMENDED ACTIONS

A coordinated strategy and messaging from national and WA industry stakeholders is essential to proactively address public concerns with empathy, build trust and political capital, and meet global market expectations for sustainability.

### Demonstrate Australian grain sustainability credentials

The GPA and GGL are developing a Grain Sustainability Framework to articulate the sustainability credentials of Australian grain production.

Notwithstanding that markets have the final say in what sustainability parameters suppliers must satisfy in order to participate in that market, the goal should be to create a single Australian sustainability framework to cover all aspects of the Australian grain production and the supply chain, or as a minimum, ensure strong alignment and complementarity between GPA & GGL's developing Grain Sustainability Framework, GTA's Code of Practice and ESG Statement, the NFF's Agricultural Sustainability Framework, and international instruments such as the United Nations Sustainable Development Goals.

Government trade officials, Austrade, Grains Australia and GTA could then use this effectively in international trade and regulatory discussions.

Other initiatives, such as Sustainable Grain Australia and the CBH Group's similar certification product are there to assist Australian growers comply with certification schemes such as the European based ISSC scheme and satisfy the sustainability reporting requirements to other international and Australian grain buyers and product processors. It is likely there will need to be ongoing development in this area to meet the demand for demonstrating sustainability as cost effectively as possible over the coming decade.

### Appoint 'brand ambassadors' at the national and state level

Consideration should be given to appointing national and WA-based brand ambassadors to represent the grain industry on the national and international stage on sustainability, environmental stewardship, emissions reduction, and economic contribution.

Consideration should also be given by the Federal Government to reinstating the role of Special Representative for Australian Agriculture, formerly occupied by Su McCluskey but whose term of appointment concluded in June 2025.

### Make positive grain industry stories discoverable

There is a need to compile positive and engaging, scientifically sound grain industry stories that are backed by verifiable data and make them readily discoverable on a consumer/customer facing platform like Grains Australia's website. Stories that promote such things as the sustainable nature of Australian grain farming, our family farming culture, the health benefits of grains, our relationships with our trading partners, and Australia's contribution to ensuring global food security would help to positively promote the value of the grain industry.

Likewise, building consumer trust in the Australian gene technology and agriculture chemical regulators and the biosecurity and food safety systems in place in the industry is an important component of ensuring the industry's customers and the public maintain a positive view of the industry.

Bodies such as Grains Australia, GTA and AOF have an important role in educating markets on the regulatory frameworks for the safe and appropriate use of pesticides in grain production and Australia's market-led system with respect to GM technology.

Finally, there is a need for coordinated positive messaging to the State and Federal Government of the value of the industry's contribution to the economy, employment and regional development.

## INDICATORS OF SUCCESS

- Increased promotion and recognition of the Australian and WA grain industry's sustainability credentials in export markets.
- Positive, data-backed stories of the Australian grain industry readily discoverable in customer facing locations.
- Australian farming practices remain free from unjustified restrictions imposed by importing countries.
- Increased positive media coverage of the grain industry in metropolitan Perth and greater awareness among parliamentarians, influencers, business leaders, and the public.

# At a glance

## Strategic Priorities for the Western Australian Grain Industry 2035+

### Vision: 30 million tonnes of WA grain—growing a $20 billion/annum sustainable future.

| Strategic priority | Objective | Actions |
|---|---|---|
| **MARKET ACCESS**<br>Market agility in a volatile trade environment | Develop and maintain markets for 30mt/annum of WA grain. | • Strengthen Government-to-Government trade facilitation.<br>• Maintain strong WA involvement.<br>• Establish a Perth-based "shop front" for export customers.<br>• Enhance biosecurity awareness and diagnostic capacity in WA. |
| **SUPPLY CHAIN INFRASTRUCTURE**<br>Get grain to market fast and efficiently | State Government stewardship and investment to improve rail, road and port infrastructure | • Support the establishment of new ownership and management arrangements for the WA freight rail network.<br>• Maintain a strong advocacy for State and Federal planning and investment in transport and port infrastructure. |
| **RD&E DELIVERY SYSTEM**<br>Boosting WA's RD&E delivery capacity and impact | The WA grain industry to exert greater influence on RD&E capability, priority setting and investment planning in WA. | • Optimise the RD&E delivery in WA.<br>• Ensure the R&D investment setting processes have access to advice on the priority issues from across the grain industry supply chain. |
| **SUSTAINABILITY**<br>World leaders in sustainable rain-fed grain production | Position the WA grain industry as a global leader in sustainable, low-emission, nature-positive grain production. | • Strengthen Industry–Government collaboration on sustainability.<br>• Support growers and industry participants to understand which practices most affect GHG emissions in their operations.<br>• Prioritise investment in collaborative RD&E projects that lead to lower emissions intensity for grain production.<br>• Ensure land use planning prioritises productive agricultural land.<br>• Position WA to be the focal point for biofuel production in Australia. |
| **INDUSTRY VALUE**<br>Unified messaging on the grain industry's economic value and quality and sustainability credentials | Meeting market expectations as a trusted and reliable source of sustainably produced grain | • Demonstrate Australian grain sustainability credentials.<br>• Appoint 'brand ambassadors' at the national and state level.<br>• Make positive grain industry stories discoverable. |

# Glossary

| | |
|---|---|
| **AI** | Artificial Intelligence |
| **ACCU** | Australian Carbon Credit Unit |
| **CBH** | Co-operative Bulk Handling Group |
| **CSIRO** | Commonwealth Scientific and Industrial Research Organisation |
| **DAFF** | Department of Agriculture, Fisheries and Forestry |
| **DFAT** | Department of Foreign Affairs and Trade |
| **DPIRD** | Department of Primary Industries and Regional Development |
| **DTMI** | Department of Transport and Major Infrastructure |
| **ESG** | Environment, social and governance |
| **EU** | European Union |
| **GGL** | Grain Growers Limited |
| **GHG** | Greenhouse gas/gases |
| **GIWA** | Grain Industry Association of Western Australia |
| **GM** | Genetically modified |
| **GPA** | Grain Producers Australia |
| **GRDC** | Grains Research and Development Corporation |
| **GSF** | Grains Sustainability Framework |
| **GTA** | Grain Trade Australia |
| **ISCC** | International Sustainability and Carbon Certification |
| **mt** | Million tonnes |
| **NFF** | National Farmers Federation |
| **R&D** | Research and development |
| **RD&E** | Research, development and extension |
| **SAF** | Sustainable Aviation Fuel |
| **Scope 1** | All GHG emissions on-farm from agricultural activity |
| **Scope 2** | GHG emissions from the production of purchased electricity |
| **Scope 3** | All GHG emissions associated with producing inputs such as fertilisers, herbicides, services etc. |
| **WA** | Western Australia |
| **WATO** | Western Australia Invest and Trade Office |

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Photo credit *Lyndon Mickel.*

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