



Department of  
Primary Industries and  
Regional Development

*We're working for  
Western Australia.*

# Western Australian protected cropping

Business opportunity outline





Consumers are demanding **high-quality** flowers, nursery plants and produce **all year round.**

This strong demand, combined with excellent prices and opportunities for significant revenue growth, makes new protected cropping operations in Western Australia (WA) an attractive investment opportunity.

With global food security and climate change concerns, protected cropping is expected to play a significant role in WA's agricultural industry. These factors combined with new and improved production systems is expected to drive strong growth in protected cropping.

## Clear opportunity for **growth**

WA has produced under cover horticulture for more than 100 years. With protective cropping happening in relatively small areas and high tech systems still in their infancy, firms have the opportunity to invest in this fast moving technology. The opportunities in the industry to efficiently scale up to remain relevant and competitive are clear. The level of technology used in greenhouse and hydroponic systems in other states and internationally is significantly better than that used locally and there are opportunities for new entrants into protected cropping. The industry is on the cusp of change and has an opportunity to match the best in the world.

**15%**

of the total value of vegetable production in Australia in protected cropping

**\$1.59** billion

value of Australian protected cropping industry



## What is protected cropping?

**Protected cropping is the production of select high-value crops sheltered from the environment inside some form of structure.**

Protected cropping provides modified growing conditions designed for optimal growth and protection from diseases and pests. Protected cropping environments include greenhouses, glasshouses, shade-houses, screen-houses, poly-tunnels and crop top structures.

Modern glasshouses use sophisticated protected cropping systems based on global best practice technology. These newer systems make consistent and reliable control of the growing environment possible while effectively managing crop nutrition, pests and diseases.

## Solid drivers

The global protected cropping industry is large and growing. The world's greenhouse horticulture market reached a value of US\$25.83 billion in 2021 and is anticipated to grow at a compound annual rate (CAGR) of 9.6% to 2027.

The protected cropping industry (excluding nursery/cut flowers) is the fastest growing food producing sector in Australia with annual growth rates averaging more than 60% over the past five years.



Protected cropping is growing globally for six key reasons:

- 1** **Significantly higher yields** can be achieved in a controlled environment ranging from 250% per square metre for capsicums to 800% per square metre for lettuce.
- 2** **Less water use.** Greenhouse tomatoes are five times more water efficient than field production and hydroponically grown greenhouse lettuce yields can be up to 11 times greater than those achieved in conventional fields.
- 3** **Fewer other inputs**, such as fertiliser and agricultural chemicals.
- 4** **Significantly better quality** leading to dramatically lower second grade product sent to processing or other uses.
- 5** **Improved crop integrity** through reduced pests and diseases.
- 6** **Consistent, year-round production** of crops independent of weather, seasons or climatic events.

Labour and energy used in advanced protected cropping systems can be much higher than in the field, however higher automation (Industry 4.0) can support some of these challenges.





## Safe and secure

WA is part of an island continent with desert separating it from other states and our isolated Mediterranean climate is relatively free of pests and disease. We are free from certain exotic pests and have zero tolerance of live insects in exports. Nationally, Australia has strong biosecurity protocols and systems, ensuring our production environment remains healthy and safe.

## Capable operators

WA has a deep pool of experienced horticultural operators using modern, automated production systems. Early adopters include Trandos Hydroponics, which began using innovative systems in the 1980s. WA's agricultural products are competitive globally and are grown with negligible agricultural subsidies.

## Advantageous conditions

WA has some of the longest sunshine hours in the world. We have a great climate for greenhouses with low humidity, a wide range of climates and low to no frost or snow.

## Strong existing industry

WA has a wide range of climatic conditions well-suited to protected cropping, ranging from a tropical climate in the north to a temperate Mediterranean climate in the south. Most existing protected cropping operations are in WA's southwest corner near Perth. There are numerous potential locations for further protected cropping, including near Perth, further north and in the south near Albany.



Locations of Intensive Horticulture in Western Australia (ABARES)



## Focused on selected products

WA's protected cropping production system currently focuses on a narrow range of products in which consumers demand the highest quality and are willing to pay a premium.

### Nursery plants and cut flowers

Cut flowers have a farm-gate value of \$293 million in Australia. They are grown year round with demand peaking in February (Valentine's Day), May (Mother's Day), and December (Christmas). Cut flower production occurs in high-tech glasshouses, lower-tech poly-tunnels and in outdoor fields. Australia is a net importer of fresh cut flowers with WA supplying 8.6% of production.

Australian nursery plants have a farm-gate value of \$2.56 billion. Nursery plants are used for landscaping, revegetation, ornamental décor, as well as in commercial production of fruit, vegetables and forestry. Nursery plant production occurs across Australia year round, with a peak during the spring season. WA accounts for 8% of national nursery plant production.

The most recent data shows 137 under cover growers in WA producing nursery plants and cut flowers across 33 hectares. Opportunities exist to grow high-value unique species (such as orchids) to supply local, domestic and international markets.

### Tomatoes

Tomatoes, indoor and outdoor grown, have a farm-gate value of \$584 million with production spread across the country. Tomatoes are popular with 86% of Australian households buying them regularly. Tomatoes dominate Australian under cover food production and the range has increased dramatically, primarily through new genetics from the Netherlands. Extensive product and packaging innovation has occurred, including vine ripened, long shelf-life cherry, cocktail and plum tomatoes, new colours, and on the truss.

WA currently accounts for just 4% of Australia's total tomato production with less than 5% produced in protected cropping. The most recent data shows five protected cropping growers on six to eight hectares producing 769 tonnes.

### Capsicums

Capsicums, indoor and outdoor, have a farm-gate value of \$212 million with production spread across the country. Capsicums are growing in popularity, with 61% of households now buying them regularly. WA currently accounts for only 8% of national production with about a quarter of our capsicums produced in protected cropping. The most recent available data shows 10 protected cropping growers in WA, with 33 hectares producing 1,530 tonnes.

### Cucumbers

Australian produced cucumbers have a farm-gate value of \$174 million, with production occurring primarily in protected cropping across the country. WA currently accounts for 10% of total national cucumber production, of which less than 10% are currently produced in protected cropping.

The most recent available data shows 22 protected cropping growers in WA, with 25 hectares producing 780 tonnes annually. Geraldton is one area that has seen expansion over recent years. The range of cucumbers available is increasing, with varieties of Continental (57%), Lebanese (31%) and baby cucumbers (11%) dominating the market. Cucumbers are growing in popularity, with 68% of households now buying them regularly.

### Herbs

Fresh herbs have an Australian farm-gate value of \$231 million and production is spread across the country. Unlike in other markets globally, fresh herbs have achieved limited penetration in Australia, with only 38% of households buying them regularly. WA currently accounts for less than 2% of Australia's herb production.

### Other crops

A wide range of other horticulture crops are produced in protected cropping, including eggplants, lettuce, other leafy vegetables, Asian vegetables and berries. Medicinal cannabis, certain essential oil plants and aquaponics also use protected cropping systems for some production.







# Efficient infrastructure

WA is one of the world's most advanced and productive regions with efficient logistics. We have well-developed and efficient supply chains with world-class quality control and quality assurance systems.

# #9

Forbes  
'Best Countries for Business 2019'  
(Australia)

# #3

Heritage Foundation  
'Index of Economic Freedom 2021'  
(Australia)

## Close to key markets

Being placed on Asia's doorstep WA is ideally positioned to build on its trusted trade relationships with the fast-growing Association of Southeast Asian Nations (ASEAN) members. Our firms can meet the markets' increasing focus on product quality and safety.

WA is close to Asia, particularly East Asia and South East Asia, both of which are large and growing markets. We are the natural and logical supplier of temperate climate foods to the tropical climate countries of South-East Asia and well-positioned to supply East Asia and the Middle East.

## Ease of doing business

Australia is politically and economically stable and a safe country in which to do business. Our businesses have sound governance and represent low sovereign risk to investors and customers.

## Fast time to market with free trade agreements

WA is geographically and strategically well-placed to supply Australia's high-income domestic market and Asia's rapidly expanding export markets. We are in the same time zone as much of South Asia and within five days can ship to Indonesia, six days to Singapore and eight days to Southern China. Australia has Free Trade Agreements in place or under negotiation with more than 25 countries and regions and our combination of location and access means we are uniquely positioned as the trusted protected cropper of the Asia region.





## Attracting investment

**WA's protected cropping industry accounts for around 6% of national area and employs 600 people.**

Australia has an estimated protected cropping farm-gate value of \$100 million and with WA accounting for 10.3% of Australia's population, the industry needs to almost double in size just to meet local demand. This indicates \$70 million in potential revenue, independent of any exports to other states or overseas markets.

Participating in WA's protected cropping industry is attractive. Multiple firms have already invested in significant production facilities (e.g. Planted Passion, Abundance Produce, Trandos Hydroponics, Mitri Hydroponics, Flora Co and Flora Plants) and by unlocking regional potential, further significant growth could be realised.

Protected cropping is capital intensive, with a high level of supporting infrastructure required. The latest technology systems rely heavily on international expertise from the Netherlands and elsewhere. To remain a leading edge technology driven sector, protected cropping will always need new developments and improved efficiencies.

According to the national peak industry body Protected Cropping Australia, capital costs can be anywhere from \$250 to \$750 plus per square metre, depending on the facility's sophistication and level of equipment being included. A high-tech glasshouse including all systems (irrigation, technology, infrastructure, etc.) is upwards of \$3,500 to \$5,000 per square metre. Viable production units are a minimum of 1,500 square metres and scale up significantly from there.

Large-scale glasshouse production is expensive compared to conventional field production, but high yields translate to high returns on investment, which can range from 20% to 25% for high-tech operations, with older traditional operations returning 5% to 10%.

Glasshouse leasehold arrangements are starting to emerge as a viable option, removing a financial barrier to industry entry or expansion.

WA has significant land area for further protected cropping processing operations at significant scale. Investment in plant protected cropping would suit a wide range of investors, including local firms seeking to scale up, Australian protected cropping leaders, global multinationals focused on protected cropping, private investor consortiums and start-ups.

### Potential investment to develop a modern protected cropping operation

**\$250 to \$3,300 per square metre**

**Area 1,500 square metres**

**Investment \$0.375 – \$4.95 million**

**Margins Average 5-10% High 20-25%**



## Supporting investment

The WA government is committed to working closely with investors to develop our protected cropping industry. The Department of Primary Industries and Regional Development's Investment Services team offers a range of investment concierge services to de-risk and support investment.

The team is made up of experienced industry professionals, who operate with a commercial focus, bringing together businesses, government departments and agencies to support industry investment initiatives.



## How we can help

### Information to support investment decisions

As a central point of contact for information and advice on investing in WA's agriculture, fisheries, and food and beverage sectors, we provide:

- Information on conducting business in WA.
- Various data and market intelligence.
- Background on relevant regulatory requirements and approval processes.

### Investment facilitation

Drawing on in-depth knowledge of the agribusiness, food and beverage industry, and extensive business networks in Australia and overseas, our team can provide guidance and introductions to help secure the investment or opportunity you are looking for. We can:

- Provide introductions to WA agribusiness, food and beverage businesses.
- Identify investment and research partnership opportunities.
- Help plan and conduct site visits to assess opportunities.
- Identify access to available natural resources and infrastructure.
- Identify suitable investor and investment opportunities.

### Regulatory approval support

Understanding and securing the required regulatory approvals for your project can be a roadblock to investment. We can provide assistance to streamline processes and simplify your dealings with relevant government departments and agencies by:

- Providing information and guidance on WA's regulatory environment.
- Helping obtain regulatory approvals.
- Coordinating with other government departments and agencies.

### Investment-ready project support

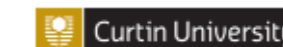
Our team is available to provide support to identify and develop your project or business' potential, including guidance on raising capital and getting your project investment-ready.

We can also work with you to provide information on the different types of investment available and investment partners.

By understanding your goals and requirements, we can assist you to identify and develop your project's potential.

## Support available

A wide range of national and State-level agencies, industry bodies and research institutions across Australia are available to support the industry in research and development, commercialisation and investment.





**We understand your project and investment requirements are unique.**

**To get started or expand on your Western Australian investment journey, contact us today.**

Speak to our Investment Services team for support and guidance:

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**p** +61 (0)8 9368 3590

**w** [agric.wa.gov.au/investment](http://agric.wa.gov.au/investment)

#### **Disclaimer**

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*Sources: DPIRD, Heritage Foundation, Forbes, UN FAO, UN Comtrade, Australian Bureau of Statistics, AMR, Fortune Business Insights, Grand View Research, Google Trends, DPIRD, industry interviews, Coriolis and DPIRD analysis and estimates.*

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