



**NSW Agribusiness
Positioned for prosperity**

Deloitte Access Economics report for
the NSW Department of Primary Industries

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Executive summary

The global increase in demand for food and fibre has fuelled an increasing optimism for agribusiness growth in Australia.

A rapidly expanding global population means there are more mouths to feed, and a rising middle class in Asia means more discerning palates and informed customers.

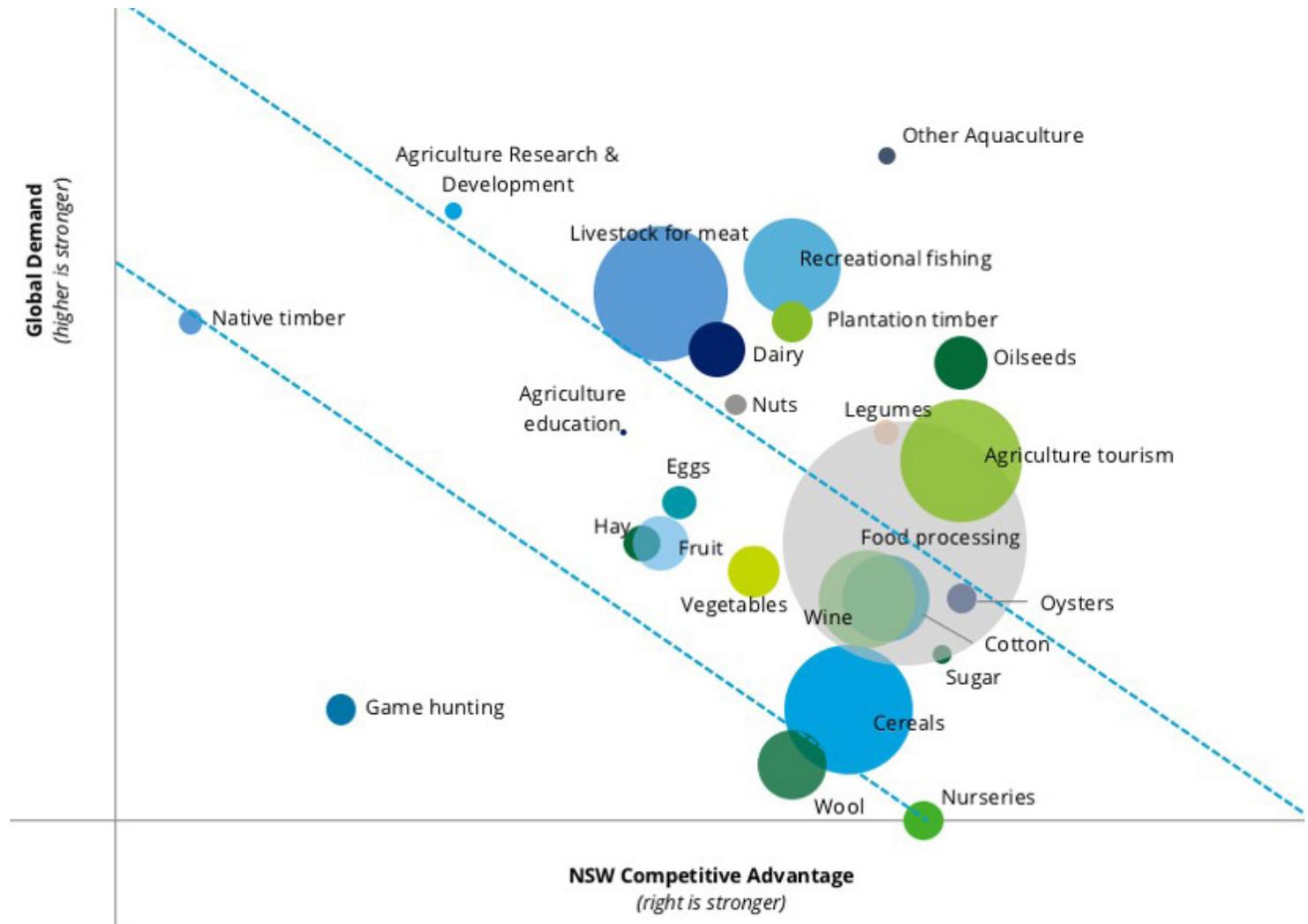
The broad opportunities to Australian agribusiness from this increasing demand is recognised. However, what's less obvious is how well positioned Australian agribusiness sectors and regions are to take advantage of these opportunities. The NSW Department of Primary Industries engaged Deloitte Access Economics to investigate this very question.

Using the same conceptual framework that was used in Deloitte's *Building the Lucky Country Positioning for Prosperity* report, but tailoring for agribusiness, the 'growth potential' of NSW agribusiness sectors has been assessed. In essence, this framework combines three core dimensions for each agri-sector and region of NSW:

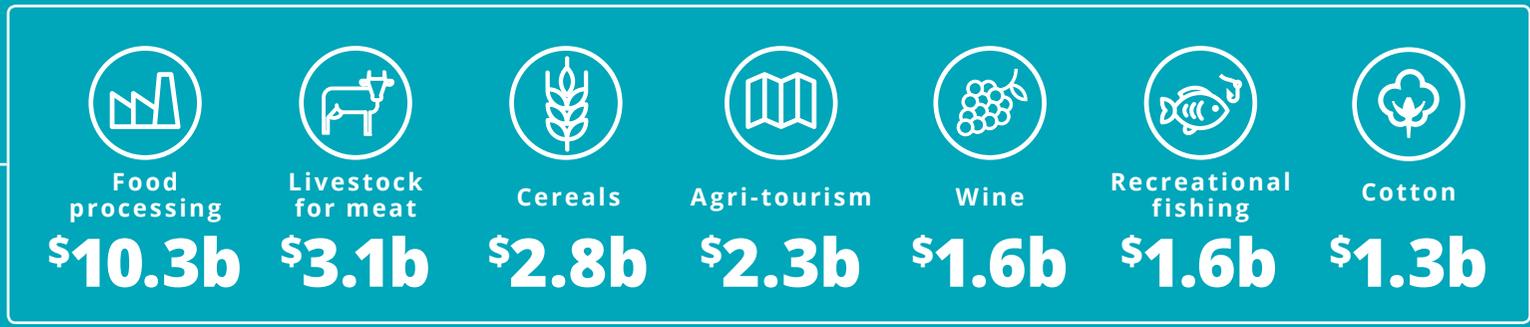
1. **Current value of production**
2. **Global demand**
3. **Competitive advantage**

Those agri-sectors which have the strongest combination of all three dimensions are those with the strongest potential for growth.

As shown in the chart (opposite), the largest spheres to the top right of the chart are those with the greatest potential.



BIGGEST SECTORS



STRONGEST DEMAND



STRONGEST ADVANTAGE



STRONGEST COMBINATION



Introduction

The NSW Department of Primary Industries engaged Deloitte Access Economics to assess the opportunities for agribusiness sectors in NSW and its regions.

It is widely recognised that global demand for quality food and fibre is increasing as a result of a rapidly expanding global population and a rising middle class in Asia. Australia is also well-positioned to share in this growth in demand due to advantages such as large areas of arable land, proximity to growing markets in Asia, and Australia's reputation as a producer of premium produce.

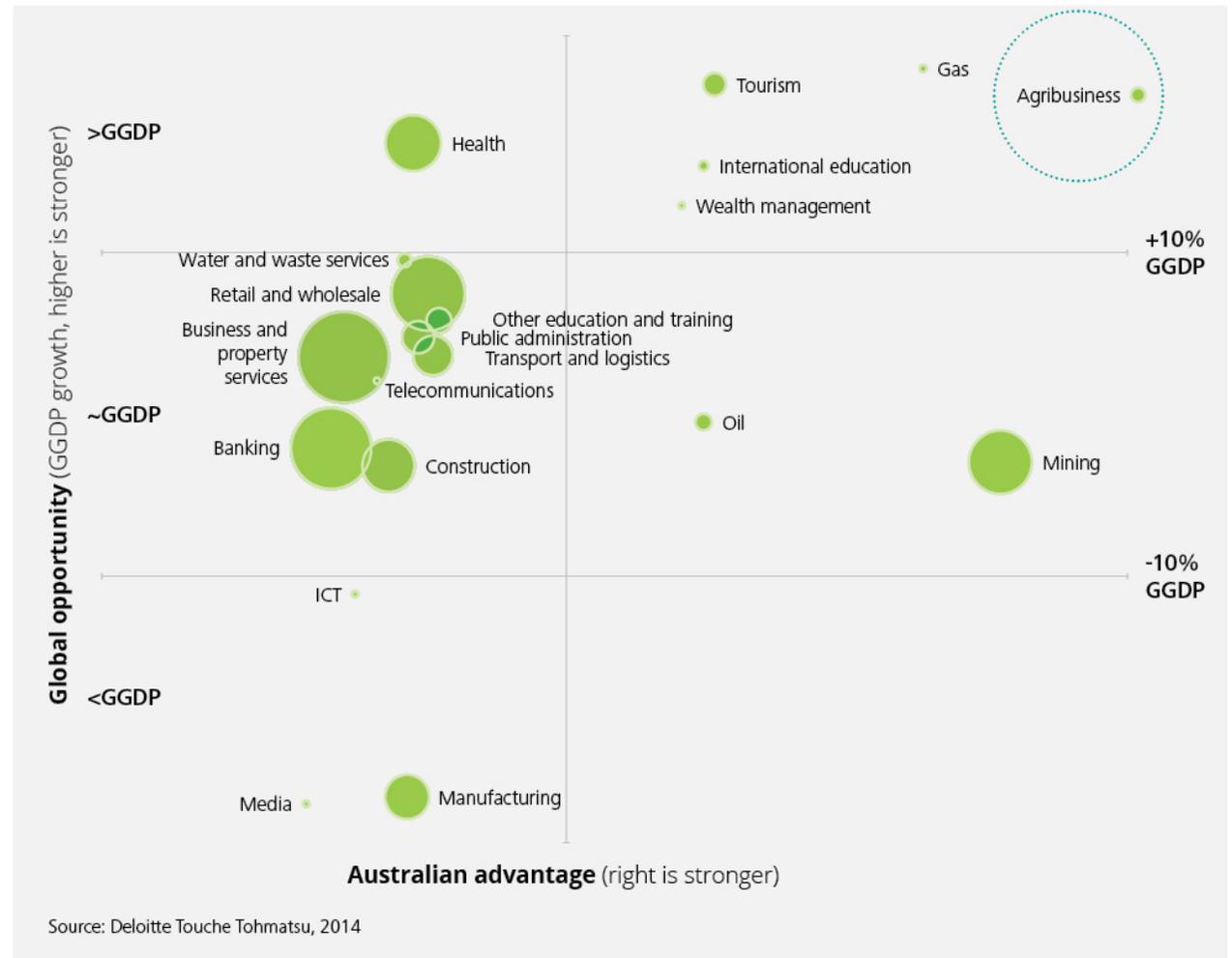
In its third instalment of the *Building the Lucky Country* series, titled *Positioning for Prosperity*, Deloitte identified agribusiness as one of the five sectors with the greatest future opportunity for growth in Australia, using a framework that measures the global opportunity and Australian advantage of 20 sectors of the Australian economy (see chart opposite).

Using the same conceptual framework, this time focused within agribusiness, the 'growth potential' of NSW agribusiness sectors was mapped. In essence, this framework combines three core dimensions for each agri-sector and region of NSW:

1. **Current value of production**
2. **Global demand**
3. **Competitive advantage.**

Each dimension was quantified for 24 agribusiness sectors of NSW and for 12 of its regions.

This report unpacks each of these dimensions, and provides more detail on the growth opportunity for six case study sectors namely wine, oilseeds, legumes, nuts, agri-tourism and aquaculture.

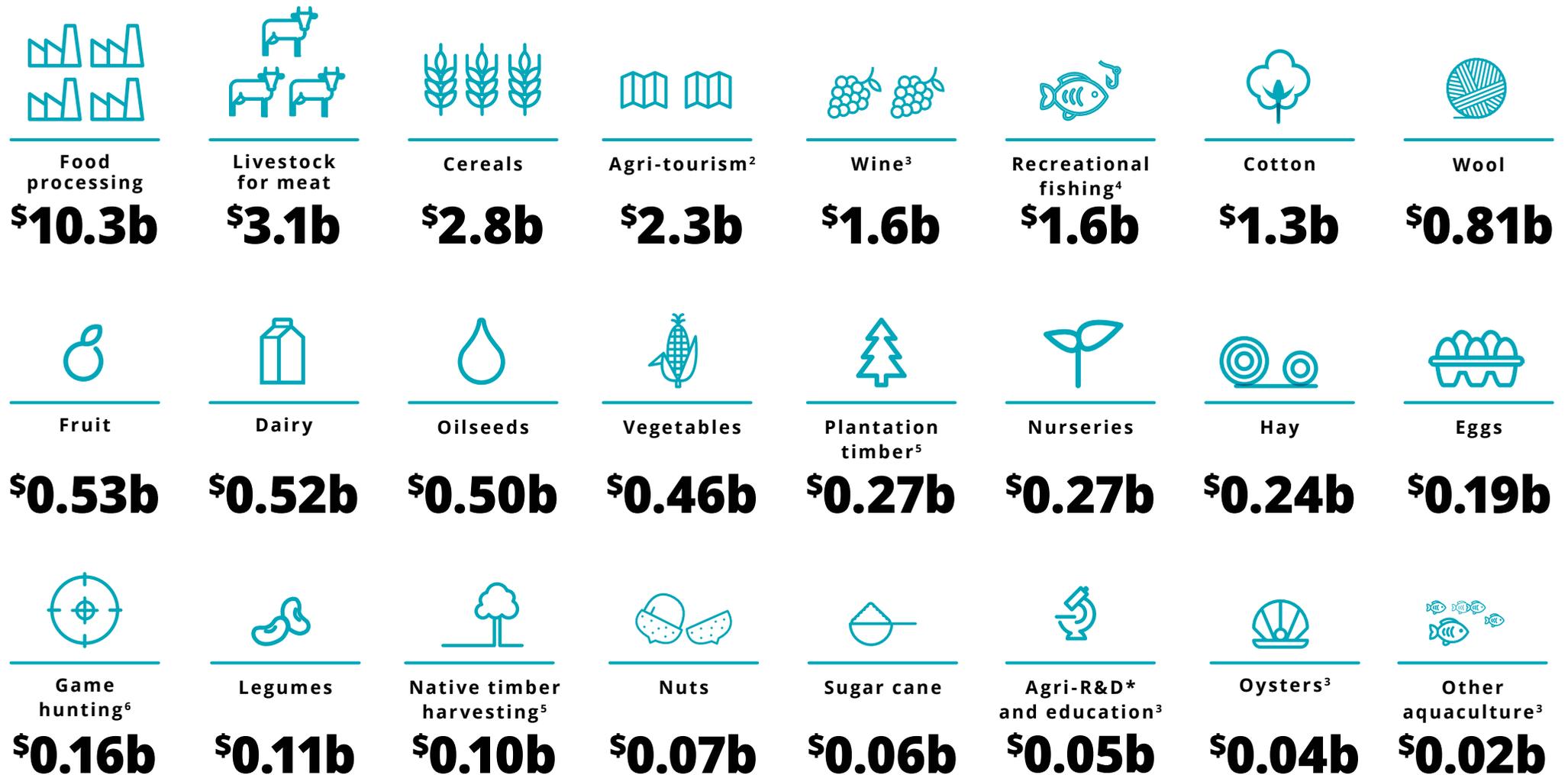


Current value of production

In this report, agribusiness is defined as the sectors in 'agriculture, forestry and fishing' (the primary production of food and fibre from the land and other natural resources) and the immediate downstream linkages into the food and fibre value chain – such as primary processors.

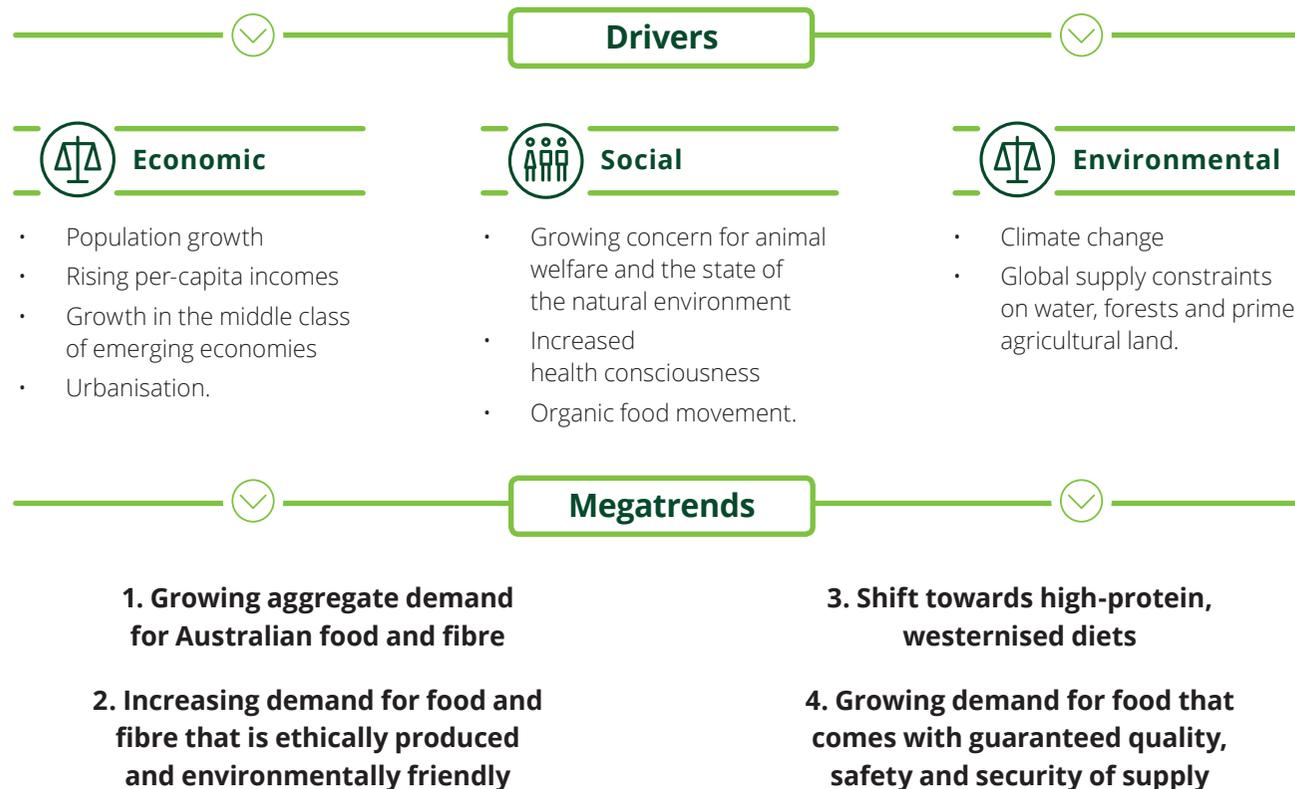
Included also are some agri-related sectors of particular interest to New South Wales, such as agricultural education, agricultural R&D, and agri-tourism.

The gross value of production in 2013-14 for these sectors is outlined below.¹



Global demand

The global growth opportunity for each of the 24 agribusiness sectors in NSW was assessed against four global megatrends.



A megatrend is a convergence of economic, social and environmental drivers or trends that influence demand over the medium to long term. Although termed ‘global’ demand, the analysis recognises domestic demand as part of global demand. For non-commodity producing sectors, such as recreational fishing and agricultural tourism, global opportunity was assessed based on different industry and macroeconomic trends relevant to that sector, rather than the four megatrends.

The four global megatrends influence the NSW individual agri-sectors in different ways and to varying degrees. The assessments for each agri-sector are informed by historical and emerging trends, Deloitte Access Economics’ forecasts, and the views of other international and national commodity forecasting agencies.

Competitive advantage

To assess the competitive advantage of the 24 NSW agribusiness sectors and 12 NSW regions, 24 factors of advantage were identified in a literature review of agribusiness competitiveness.

Measures were developed to assess each of the 24 factors of advantage taking into account NSW's position relative to the rest of the world. Sources of data included the World Economic Forum's (WEF) Global Competitiveness Index, Organisation of Economic Co-operation and Development (OECD), Food and Agriculture Organisation (FAO), World Bank, the Australian Bureau of Statistics (ABS), the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), IBISWorld, Bureau of Meteorology and the Regional Australia Institute.



1. Terms of trade
– exchange rates
2. Economies of scale
3. Economies of density.



4. Access to technology
5. Research, Development and Extension
6. Education and training
7. Age of workforce
8. Product differentiation.



9. Rainfall
10. Irrigation water
11. Soil fertility
12. Biosecurity
13. Area of arable land
14. Length of growing season.



15. Supply chain efficiency.

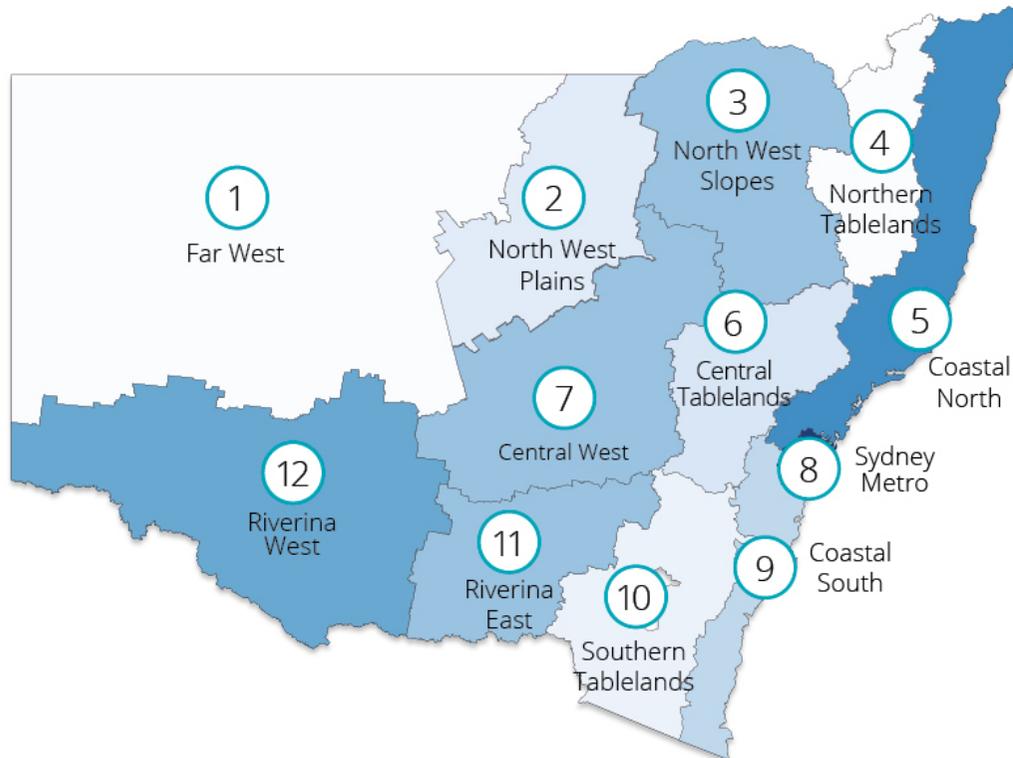


16. Cost of labour
17. Cost of intermediate inputs
18. Land use conflicts
19. Regulatory burden
20. Barriers to entry/exit
21. Access to capital.



22. Proximity to domestic markets
23. Proximity to export markets
24. Trade barriers.

The 12 NSW regions



1. Despite being the largest geographically, the Far West region has the smallest agribusiness sector by value, dominated by livestock, mostly sheep, and some cotton production.



2. Agricultural production in the North West Plains is comprised mainly of cotton, cereals, and livestock for both meat and wool. Food processing in the region is also prominent.



3. The North West Slopes is Australia's largest cotton-producing area. Production of cereal crops, legumes and livestock are also prominent.



4. The Northern Tablelands' region specialises in beef cattle and sheep grazing – for both meat and wool.



5. The Coastal North is one of NSW's most diverse agribusiness regions. High rainfall and coastal climates support livestock industries, nut and horticulture production. Its coastline is also well-suited to aquaculture and sugar production as well as attractive for tourism.



6. The main industries in the Central Tablelands are livestock based. The region also contains wine production, which supports agri-tourism.



7. The Central West region is the heart of New South Wales' cropping belt, with cereals and oilseeds the major commodities produced. It is also the largest wool producing area of New South Wales.



8. While low in primary production, the Sydney Metropolitan region has a large food processing sector including wine production. It also provides a strong base for New South Wales' agri-tourism sector.



9. The Coastal South region has a large dairy industry that supports significant downstream processing. Agri-tourism, cattle grazing and aquaculture are also prominent in the area.



10. The Southern Tablelands is a cooler climate region ideal for livestock grazing and wine production, along with fruit such as apples.



11. The Riverina East region is ideal for broadacre cropping and grazing. It is New South Wales' largest producer of oilseeds and cereals, and produces significant volumes of sheep meat and wool.



12. The Riverina West region is New South Wales' horticulture capital. With excellent access to irrigation water, the region produces a wide variety of both crops and livestock products.

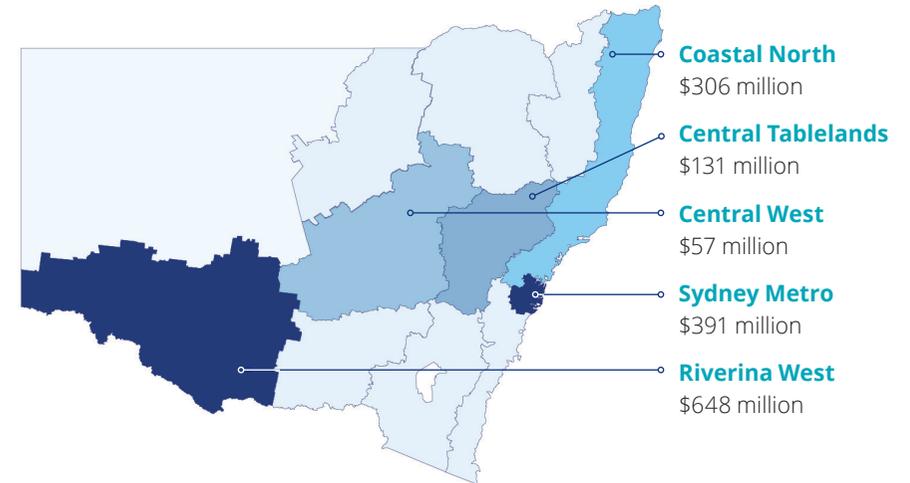
NSW was broken down into 12 different regions in which to focus the analysis of growth opportunities. The regions used in this analysis are broadly based on the ABARES AgSurf regions, which are comprised of local government areas (LGAs). Agribusiness industries are not uniformly spread across the state. Regions specialise depending on their comparative advantage in the production and marketing of their products.

Case Study: Wine



Wine production by region

Wine production is spread across 14 recognised wine regions in New South Wales, covering a diverse range of climate and terrain conditions. The Riverina West region, which produces mainly bulk irrigated wine, is the state's largest wine-producing area by value.



Growth position: Moderate

Moderate global demand
Strong competitive advantage

Sector output (2012-13)³

\$1.6 billion

Production volume (2012-13)⁷

384 million litres

32% of national production

Export value (2014-15)⁸

\$490 million

Moderate global demand

+ Rising income is boosting the popularity of high-end wine in Asian countries.

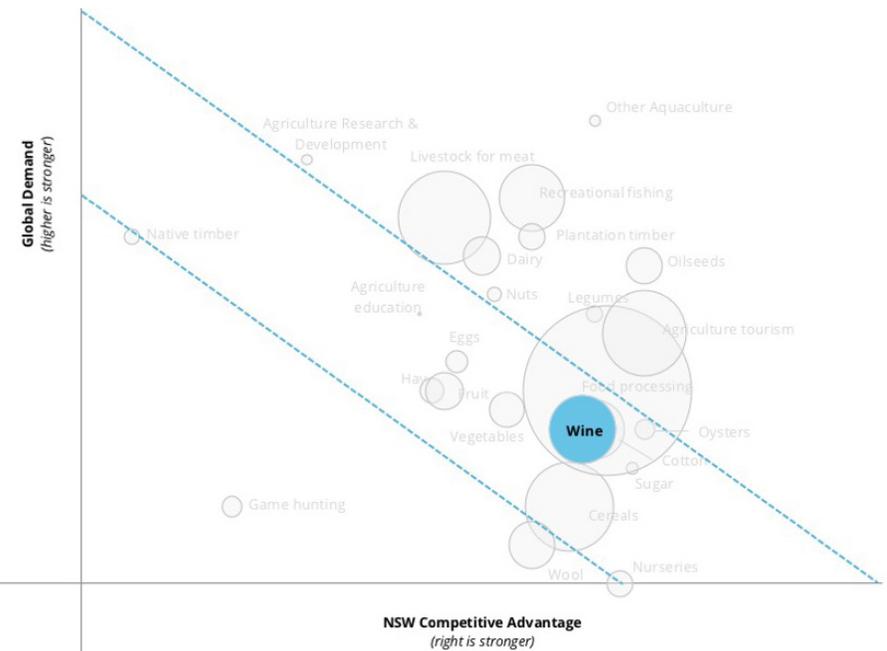
- Consumers' growing health consciousness domestically is expected to temper demand growth for wine in the long term.

Strong competitive advantage

+ Branding and product differentiation in the wine sector are important, and NSW has several well-known wine regions, giving it a strong advantage.

- The wine sector is disadvantaged by the large number of small producers, limiting economies of scale.

- Proximity to major traditional exports markets is low, but of less importance given the premium quality status of the product.

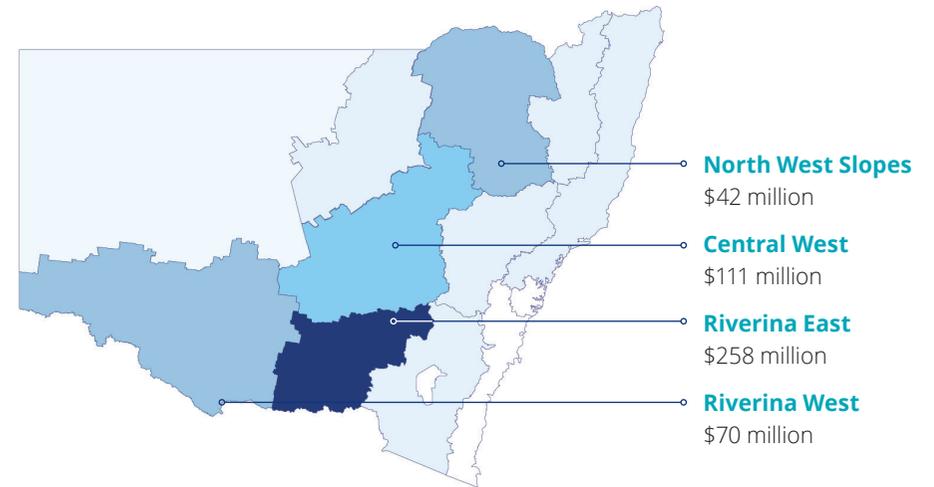


Case Study: Oilseeds



Oilseed production by region

Oilseed production in New South Wales occurs in most cropping areas, but is particularly concentrated in the Riverina East region, which accounts for around half of the state's production. Canola is the dominant crop for oilseeds in New South Wales.



Sector output (2013-14)
 Canola: \$482 million
 Other oilseeds: \$22 million

Production volume (2013-14)¹⁰
 959,000 tonnes
 25% of national production

Export value (2013-14)⁸
 \$229 million (oilseeds)
 \$71 million (canola oil)
 \$19 million (canola meal)

Strong global demand

- + Consumer health preferences are likely to continue to shift demand to temperate oilseeds that New South Wales produces, over less healthy animal-based oils or tropical oils from elsewhere.
- + Global demand for oilseeds will increase significantly in large developing economies, such as China and India.
- + Global demand for oilseeds will be influenced by the biofuels sector.

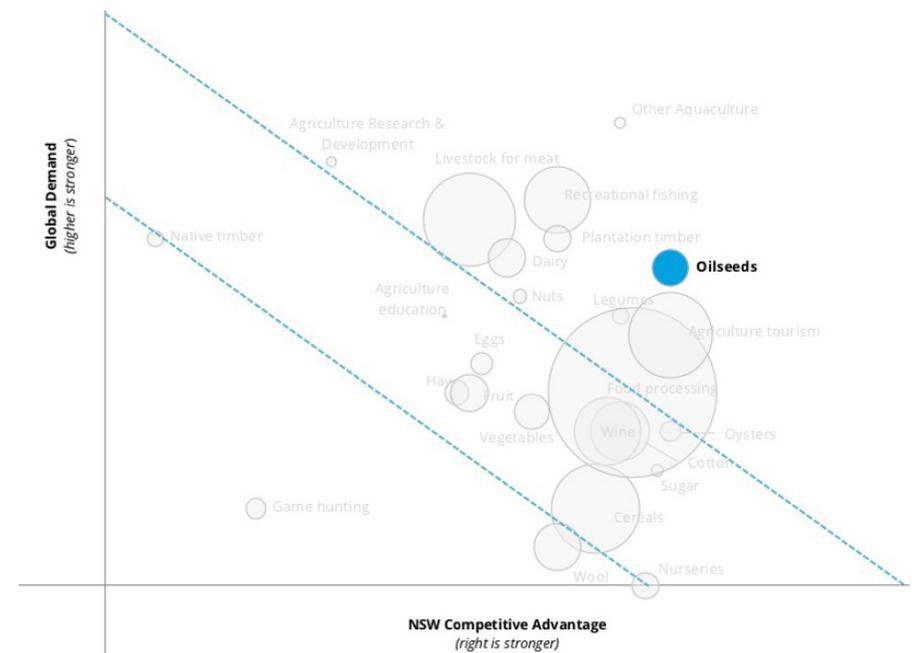
Strong competitive advantage

- + Large area of suitable arable land, mechanised production and relatively low barriers to entry (although capital intensive).
- + Oilseeds are an ideal rotational crop, with cereals or pulses. Supply chain infrastructure for cereals can also be used for oilseeds.
- + As a predominantly dryland crop, producers typically do not require irrigation water to grow oilseeds, although some irrigated production occurs.



Growth position: High

Strong global demand
 Strong competitive advantage

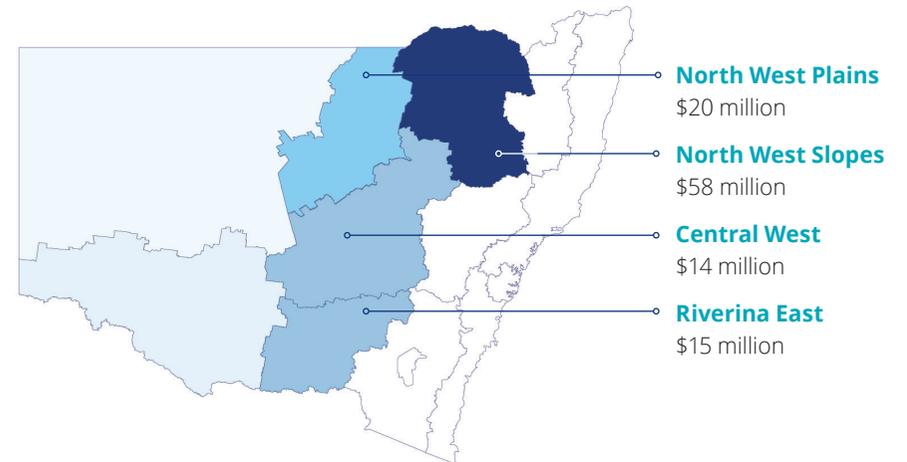


Case Study: Legumes



Legume production by region

Legumes are produced in most New South Wales cropping areas. Production is particularly concentrated in the North West Slopes region, which accounts for over half of the state's production.



Sector output (2013-14)
\$112 million

Production volume (2013-14)¹⁰
328,000 tonnes
17% of national production

Export Value (2013-14)⁸
\$79 million

Strong global demand

+ Legumes, particularly pulses, are an affordable and healthy alternative protein source compared to more expensive animal based protein.

+ Some projections indicate that global per capita legume demand will increase by up to 15% by 2050.

Strong competitive advantage

+ Relatively low barriers to entry and inputs readily available.

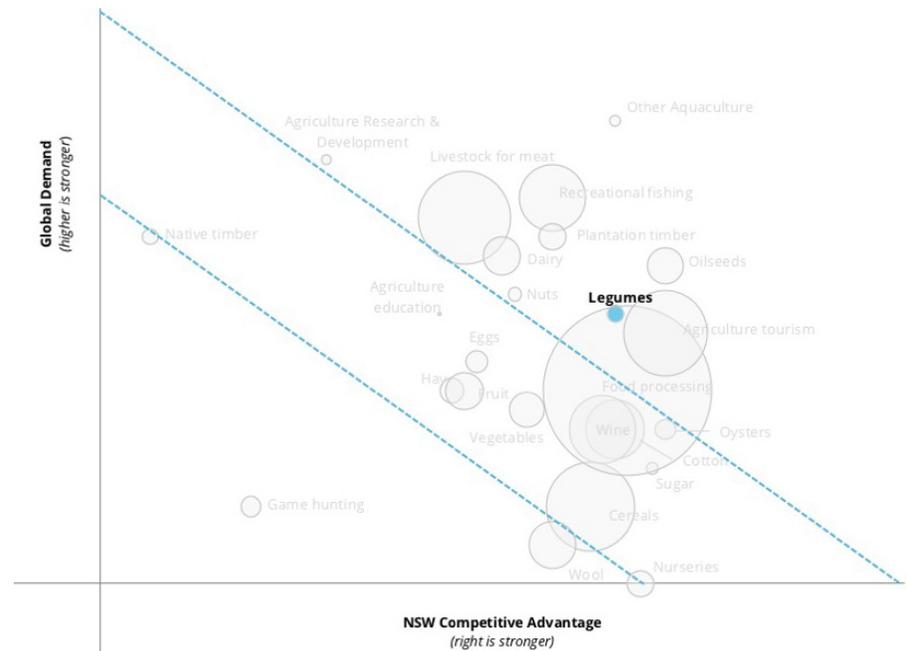
+ Legumes are flexible in production and are an ideal rotational crop for farmers looking to add nutrients to their soil.

+ Mechanised production, although capital intensive.



Growth position: High

Strong global demand
Strong competitive advantage

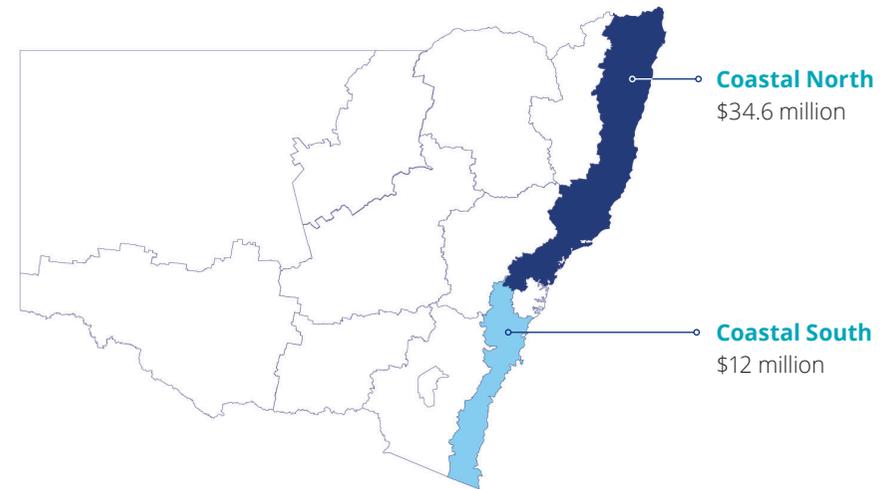


Case Study: Aquaculture



Aquaculture production by region

Aquaculture production is concentrated in the coastal areas of New South Wales, particularly in the north.



Sector output* (2013-14)¹¹
 Oysters: \$36 million
 Other aquaculture: \$17 million

Export value (2013-14)⁸
(includes wild-caught)
 Crustaceans: \$3.1 million
 Molluscs: \$1.3 million
 Fish: \$8.3 million

*Sector output includes both offshore (caged) and onshore aquaculture.

Strong global demand

+ Demand for seafood, which is nutrient rich and high in protein, is expected to grow considerably in developing countries with expanding populations and increasing wealth.

+ Aquaculture presents as a viable and sustainable alternative to decreasing wild fish stocks.

Strong competitive advantage

+ Aquaculture production is relatively concentrated providing economies of density, and has a relatively younger workforce compared to other agri-industries.

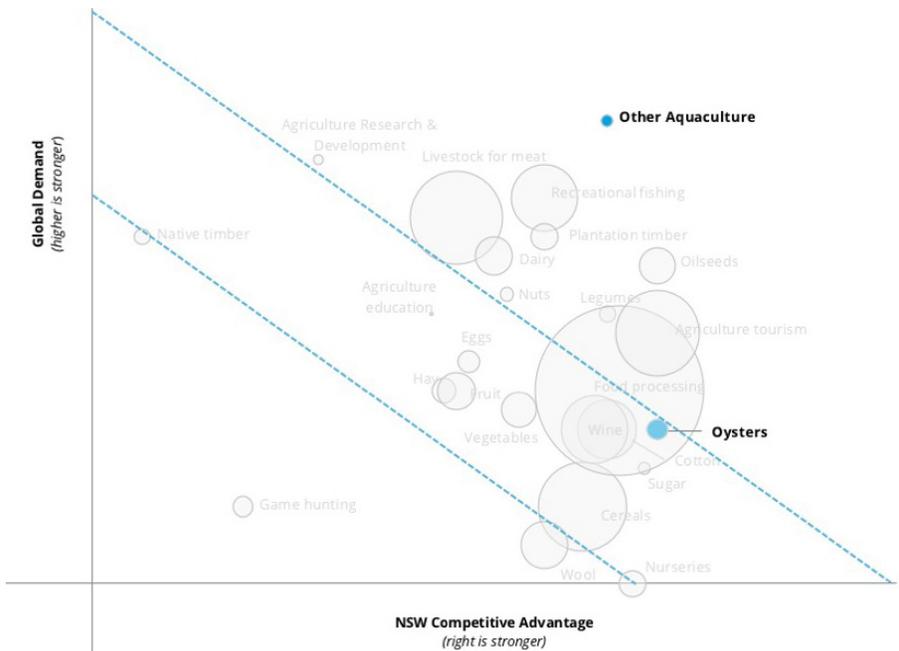
+ Fish have relatively high feed conversion ratios and require relatively little land as an input to production.

- Barriers to entry are higher than other industries, reflecting high start-up costs, cost of environmental approvals, licence requirements, and a high level of ongoing regulation.



Growth position: High

Strong global demand (moderate for oysters)
 Strong competitive advantage

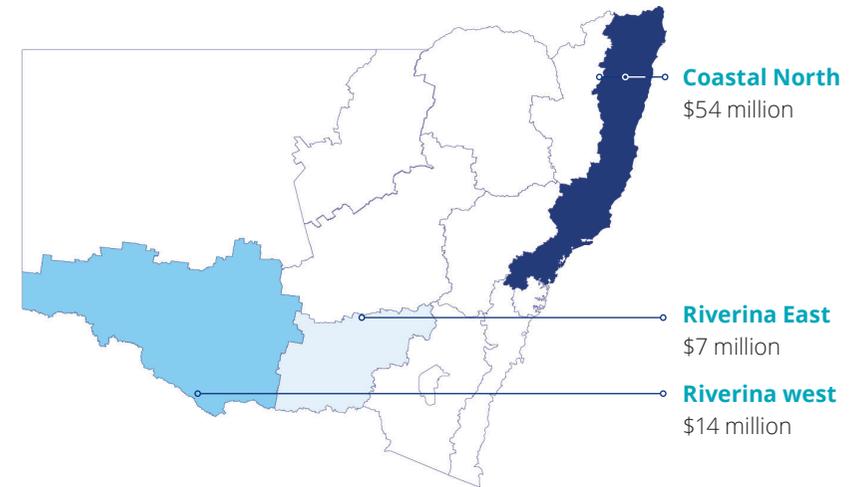


Case Study: Nuts



Nut production by region

NSW tree nut production is concentrated around the Coastal North region for macadamias and the Riverina district for almonds.



Growth position: Moderate

High global demand
Moderate competitive advantage

Sector output (2013-14)

\$78 million
Macadamias: \$53 million
Almonds: \$12 million

Production volume (2013-14)¹⁰

Macadamias: 15,200 tonnes
Almonds: 1,800 tonnes

Export value* (2013-14)⁸

\$92 million

*Export value exceeds production value since there are industries that add value downstream, such as processing and transport. Exports may also include produce grown in other states that was exported from New South Wales.

High global demand

+ Global consumption of nuts is growing. Reflecting this, Australian tree nut exports, particularly macadamias and almonds, have risen significantly over the past decade.

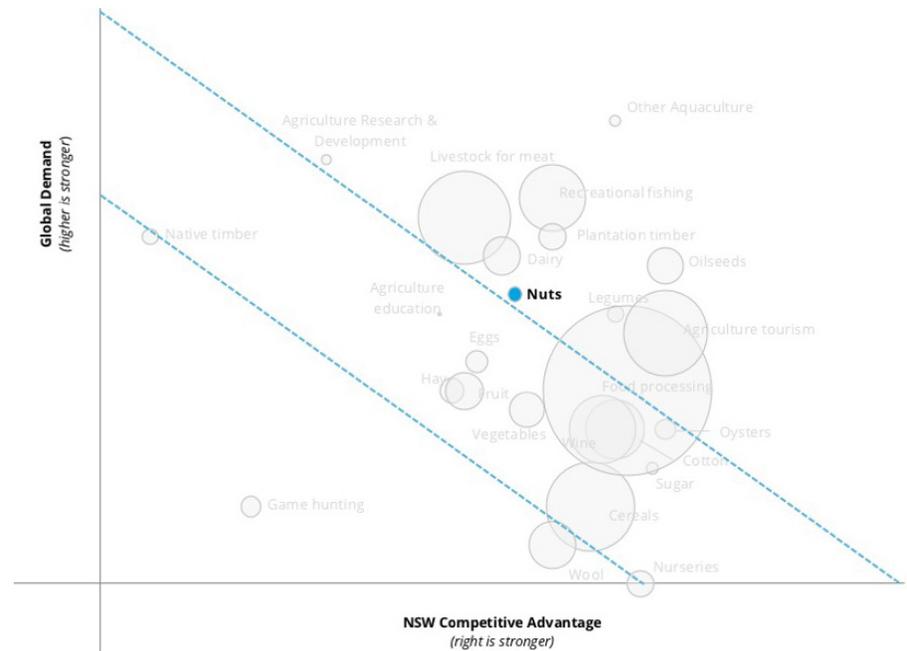
+ Increased awareness of the health benefits of nuts is a key driver of increasing demand

+ Nuts are highly versatile and are increasingly being used as an ingredient to manufactured food and health care products

Moderate competitive advantage

+ Nuts have a relatively low regulatory burden compared to many other sectors and production is mostly mechanised.

- Lead-times for nut production can be high, since trees take years to reach maturity from the time they are planted.

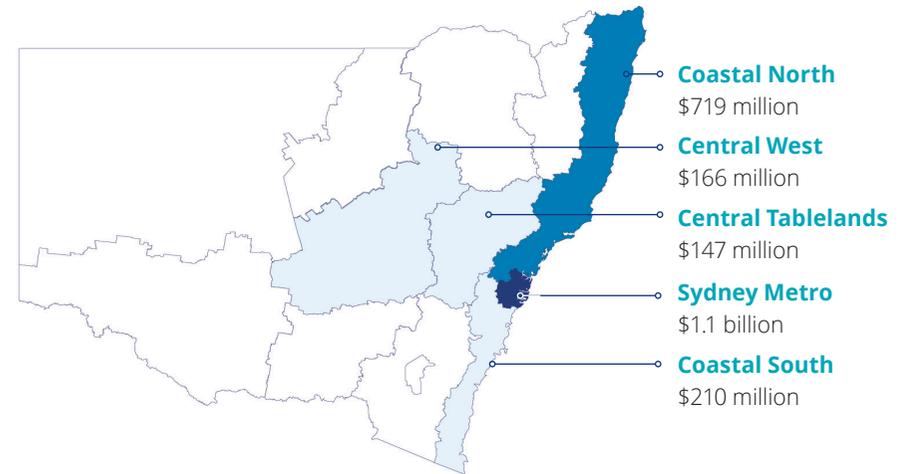


Case Study: Agri-tourism



Agri-tourism by region

Agri-tourism is concentrated around the Coastal North region, which has good interstate road and rail links and numerous commercial airports, as well as a large local population to attract to wineries and farms. Metropolitan Sydney provides a strong base for New South Wales' agri-tourism sector, particularly its surrounding wine regions.



Sector size*(2014-15)²

\$2.3 billion

Estimated expenditure shares:

Domestic day visitors: 4%

Domestic overnight visitors: 51%

International visitors: 45%

*The size of the agri-tourism sector is estimated by measuring the expenditure of visitors to each region that visited either a farm or winery. This is not an exact measure of industry size.

Moderate global demand

+ Population growth and urbanisation will have an influence on the demand for agricultural tourism.

+ Higher global average incomes are likely to drive greater demand for tourism in general, including agri-tourism.

+ Consumer trend towards understanding food origins and demand for regional produce.

Strong competitive advantage

+ The strong reputation and brand associated with its wine industry means that New South Wales is well placed to benefit from growing demand.

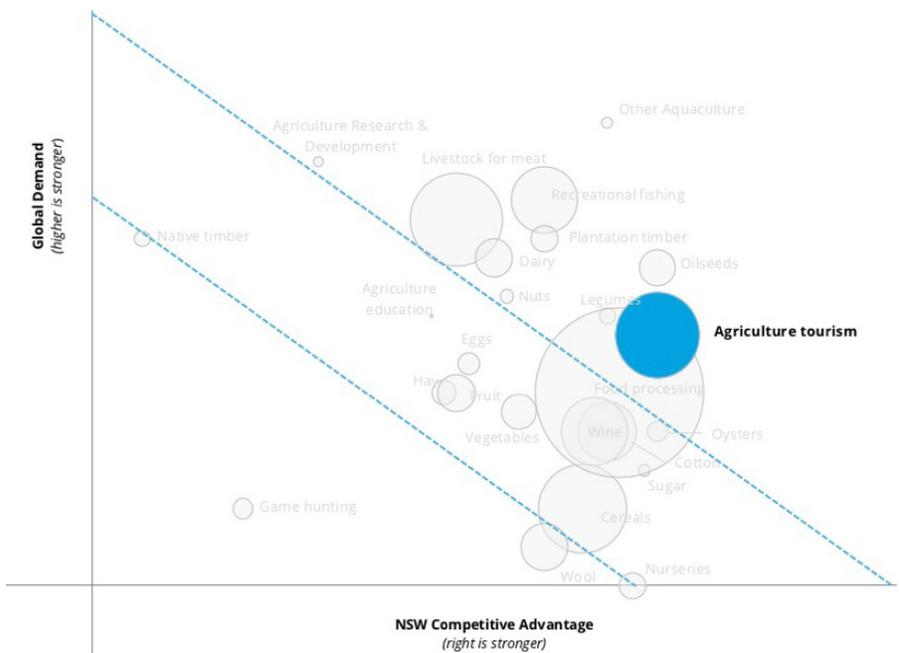
+ New South Wales' agri-tourism is relatively well-positioned given its proximity to Sydney, which attracts a large number of international and domestic tourists.



Growth position: High

Moderate global demand

Strong competitive advantage



End notes

1. Unless otherwise stated in the endnotes below, sector values are based on ABS, Value of Agricultural Commodities Produced, Australia, 2013-14, Cat no. 7503.0
2. Source: Deloitte Access Economics analysis of Tourism Research Australia data for 2014-15 period
3. Source: Deloitte Access Economics analysis of ABS, Australian Census of Population and Housing (2011) and ABS, Australian National Accounts: Input-Output Tables, 2012-13, Cat no. 5209.0.55.001
4. Source: McIlgorm, A. and J. Pepperell (2013) Developing a cost effective state wide expenditure survey method to measure the economic contribution of the recreational fishing sector in NSW in 2012
5. Source: ABARES Australian Forest and Wood Product Statistics: March and June quarters, 2015
6. Source: Deloitte Access Economics analysis of data provided by the NSW DPI Game Licensing Unit; and Victorian Department of Environment and Primary Industries (2013), Estimating the impact of hunting in Victoria in 2013
7. Source: ABS, Australian Wine and Grape Industry, 2012-13 cat. no. 1329.0
8. Source: ABS, International Trade, Cat no. 5368.0
9. Source: ABS, Australian Census of Population and Housing, 2011
10. Source: ABS, Agricultural Commodities, Australia, 2013-14, Cat no. 7121.0
11. NSW Department of Primary Industries, Aquaculture Production Report 2013-14



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