



AUSTRALIAN AGRIBUSINESS GROUP

MARKET OVERVIEW – THE AUSTRALIAN WALNUT INDUSTRY

Independent Assessment – March 2007

Industry Snapshot

- Walnuts date back to 7000 BC and are a popular and versatile nut, sold as in-shell or shelled and used in confectionary and baking products (Section 1).
- In 2006, Australia had 1,140 ha under cultivation to walnuts with this area set to rise to 7,140 ha by 2011 due to increasing interest in growing the nut (Section 2)
- In the last decade, global production has increased 42% to 1.5 million tonnes, with China leading the world in terms of walnuts produced, accounting for 28% of global production, followed by the USA with 21% (Section 3).
- Currently Australian domestic demand far outweighs domestic production, however it is expected that Australia will be able to meet its consumption needs in the next 3-5 years with the domestically produced product being favoured over imports due to its flavour and freshness (Section 4).
- Recent strong international demand for walnuts has enabled growers throughout the world to receive high, stable prices for their walnuts ironing out price fluctuations which have historically being associated with walnut markets (Section 5).

1 Introduction

Walnuts are a popular and versatile nut, sold as in-shell or processed (cracked to extract the kernel). World trade in walnuts is predominately in kernel reflecting the major end-use of the product in baking and confectionary industries¹. Walnuts produced for edible consumption are hybrids of the common English or Persian walnut (*Juglans regia L*), for which production dates back to 7000 BC. This makes the English walnuts one of the oldest tree foods known to man².

Valued for its large edible nut, the English walnut is the world's predominant commercially grown species of walnut. Another walnut tree is the Black walnut (*Juglans hindii*), which grows wild in its native USA and is produced for its valuable wood³. Although its nuts are of high flavour, they are not used for commercial production due to their hard shell and poor hulling characteristics. Shells of this walnut specie are however used in some industrial products due to their hardness. Black walnut shells are often ground down to provide an abrasive medium in cleaning or paint products or used as filler⁴.

Containing a significant amount of the plant form of omega-3 fatty acid, researchers agree that walnuts effectively lower cholesterol and improve vascular function helping to prevent heart disease and stroke³. In addition to walnuts containing a good source of dietary fibre and protein, walnuts contain many antioxidants.

Ideally suited to a Mediterranean-type climate, walnuts will grow in many parts of southern Australia. In addition to this, Australia has the advantage of fewer walnut pests and diseases and cleaner air and water than other producing countries. Walnuts require a cold period of between 600 and 800 hours below 10°C during winter and a frost free period during flowering⁵.

Walnut trees are very demanding of soils, especially in terms of texture and structure. Preferring deep well drained alluvial soil types, the growth of walnuts has been limited in south-eastern Australia, where hard-clay pan soils are most prevalent. However, the adoption of the 'Tatura system' of soil management, whereby trees are planted into a topsoil bank has eliminated previous limitations placed on walnut production in Australia⁵.

Walnuts are a slight biennial bearer of fruit, with the three main cultivars in Australia being Chandler, Howard and Tulare. Reaching peak production in up to 10 years, these newer cultivars take approximately 3 years to first bear fruit. Comparatively older cultivar varieties may take up to 8 years to bear fruit⁶. Walnut trees have the ability to continue producing quality fruit for up to a century².

Bearing fruit in May and June, large volumes of mature Australian walnuts have yet to be realised due to the young age of plantations⁷.

2 Producing Regions In Australia

Walnut production in Australia appeals to a variety of producers including part-time farmers, retirees and investors. This consequently creates a high level of variation in walnut farm sizes making it difficult to compare statistics within the domestic industry. The high level of attractiveness into the industry is due to production being highly mechanised, orchards requiring low levels of maintenance and trees being productive for at least 40 years. Once harvested, the nuts can also keep for two years ¹.

Even though Australia has produced walnuts for over 65 years, it is still only a small industry within the country. In 2006, Australia had 1,140 ha under cultivation to walnuts. This is expected to rise to 7,140 ha by 2011 ⁸. This expected growth is due to increased interest in growing the tree and an estimated two-thirds of planted trees having not yet reached harvesting maturity ^{1,7}.

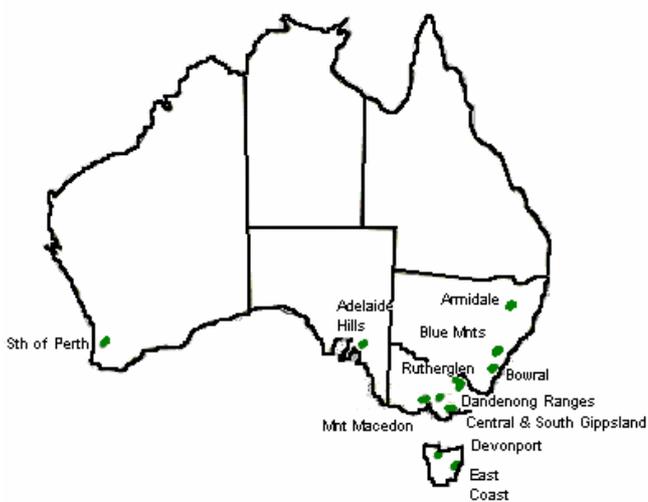


Figure 1 Australia's main regions of walnut production ⁹

The majority of walnut production in Australia occurs in south-east Australia, where production is most ideally suited. Walnut production first occurred in Australia in north-east Victoria and now walnuts are predominantly grown in northern Victoria and into southern NSW. Other regions that have commenced growing walnuts include the Perth region of WA, the Adelaide Hills region of SA and Tasmania (Figure 1) ⁹.

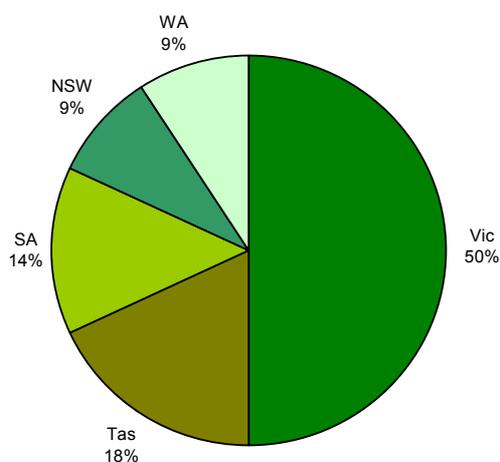


Figure 2 Walnut production by state ¹⁰

As shown in Figure 2, Victoria is the leading walnut producing state accounting for approximately 50% of production. Tasmania (18%), South Australia (14%), NSW (9%) and WA (9%) follow Victoria in regards to production quantities ¹⁰. According to one industry leader, large scale walnut plantations have commenced at Robinvale in north-west Victoria and at Griffith in southern NSW, which may dramatically alter the state proportions of walnut production in Australia in the coming years ⁷.

3 International Supply and Demand

Internationally, countries like the USA, China, France, Spain, Turkey, Chile and Italy are expanding their industries. The continued plantings and improvements in planting and management techniques across all of the leading producers of walnuts, illustrates the increased confidence in walnut production. This is evidenced by Figure 3, which exemplifies the consistent nature of global walnut production steadily increasing. In the last decade, global production has increased 42% to a record 1.5 million tonnes per annum ¹¹.

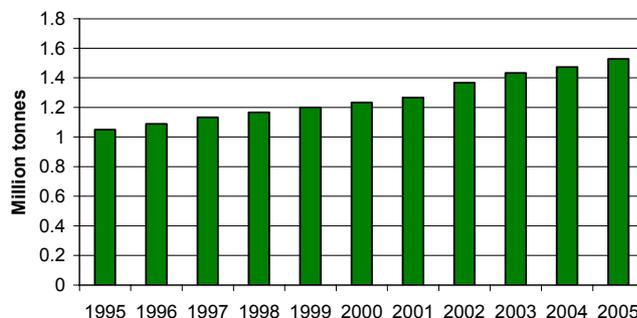


Figure 3 World Production of Walnuts 1995 – 2005 ¹¹

China and Iran have been the world's biggest movers in regards to increasing walnut production. China has doubled its production over the past 20 years whilst Iran's production has increased by roughly five-fold over the same period. USA and Turkey are the other two major walnut producers however their production levels have remained relatively stagnant over the past 20 years ¹².

As is evidenced in Figure 4, China leads the world in walnut production, accounting for 28% of global production. The USA (21%) is the world's second largest producer. Other leading producers are Iran (10%), Turkey (9%) and the Ukraine (6%). On a world scale, Australia is a relatively small producer of walnuts, accounting for 0.01% of world production in 2005 ¹¹.

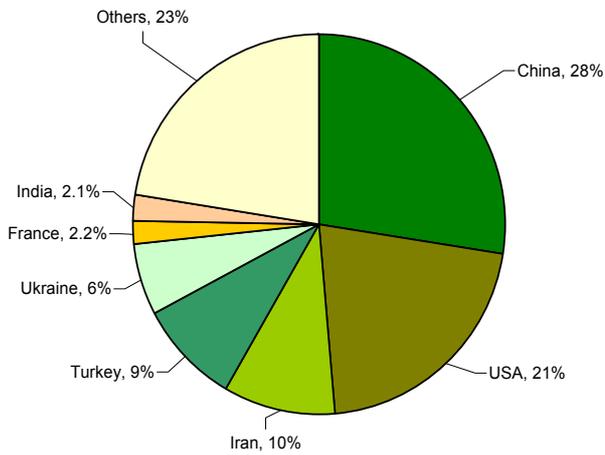


Figure 4 Leading Producing Countries of walnuts in 2005¹¹

Walnuts are traded either in-shell or shelled with Australian walnuts often being sent off-shore for processing. There is a strong dominance of highly developed walnut producing countries exporting large quantities of in-shell walnuts compared to lesser-developed walnut producing countries. Imports of shelled walnuts are clearly dominated by richer countries with Japan standing out as a large importer of shelled walnuts yet importing insignificant quantities of in-shell nuts¹¹. These trends can be attributed to higher income countries finding it more economical to purchase the more expensive shelled variety rather than investing in the labour and infrastructure required to complete the expensive shelling process themselves¹³. Germany however remains an exception, with home shelling of walnuts being a cultural tradition particularly around Christmas time. This season always generates a rapid rise in Germany's walnut imports. Germany and Spain have also been long standing large walnut producers and consumers of walnuts and so have the infrastructure required for the shelling process¹³.

Although the United States is not the world's leading producer of walnuts, it is the major exporter with 44% of the market (Figure 5).

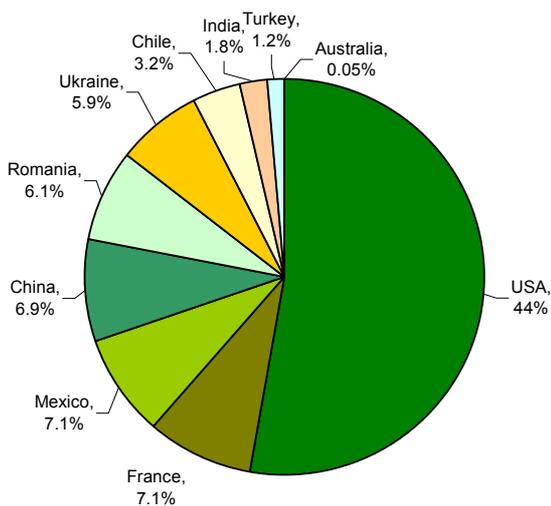


Figure 5 Major exporters of walnuts, 2005¹¹

France (7.1%), Mexico (7.1%) and China (6.9%) are the next largest exporters, with Romania, Ukraine and Chile being the other major walnut exporters (Figure 5). China's small proportion of exports in relation to its production levels is due to a very limited amount of their walnut production meeting international quality standards¹⁴.

Germany is the world's major importer of walnuts accounting for 12% of the world's walnut imports (Figure 6).

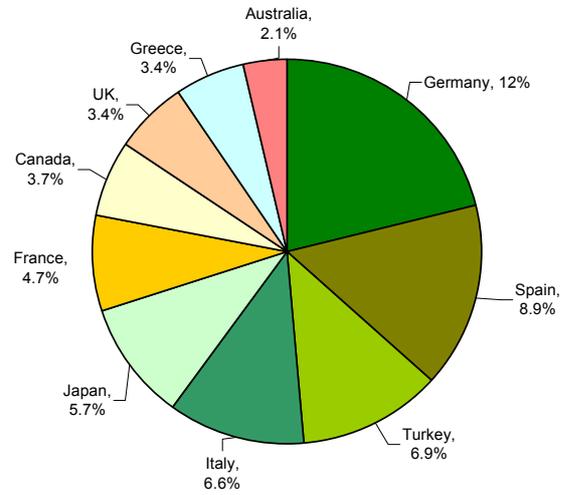


Figure 6 Major importers of walnuts 2005¹¹

Spain (8.9%), Turkey (6.9%) and Italy (6.6%) are the next three largest importers of walnuts. The remaining dominant importers of walnuts in the world are Japan, France, Canada, the UK, Greece and Australia. It is interesting to note that these countries are all highly developed demonstrating the high value market pertaining to walnuts.

4 Australian Supply and Demand

Australia is a tiny producer of walnuts on the world stage, accounting for approximately 0.01% of world production in 2005¹¹. Walnut production has recently increased substantially with production rising by over 150% between 1998 and 2004 (Figure 7)¹⁰. Production in 2004 was 400 tonnes. This is expected to increase dramatically within the next five years as new orchards come into bearing⁸.

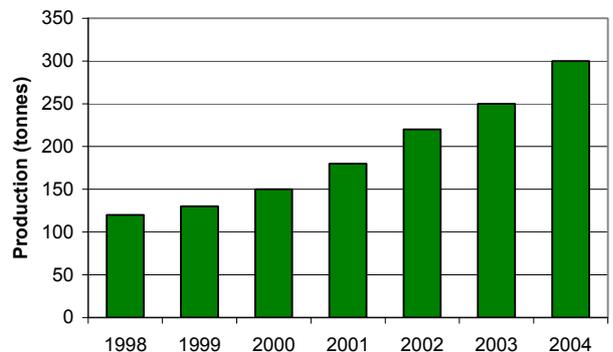


Figure 7 Australian production 1998 to 2004¹⁰



The majority of Australia's walnuts are sold in-shell with only a very small percentage sold as processed nuts. This is due to in-shell prices being relatively high in comparison to the extra cost of processing machinery making it hard to justify the extra step in the production cycle ¹.

Walnuts are mainly sold in Australia at the farm gate, to supermarkets, at produce markets and through health-food shops. A few growers are value-adding by marketing walnuts that have been processed either by hand or by machine, or by selling pickled walnuts. In the future there will be more walnuts sold as processed nuts to provide an outlet for damaged and small nuts and to simply increase the product range ¹.

Current domestic consumption of in-shell walnuts is about 600 to 800 tonnes a year. Domestic consumption of kernel is around 2,500 tonnes or 6,000 tonnes of in-shell equivalent, which is largely destined for baking or confectionary ⁸. These consumption rates outweigh domestic production making Australia a net importer of walnuts. Traditionally the majority of Australian imports are sourced from the USA with the total value of Australian fresh walnut imports in 2004/05 being \$21 million ¹⁵.

Locally produced walnuts are expected to fulfil total domestic consumption of in-shell walnuts in the next 3-5 years. Despite a premium price, Australian in-shell walnuts are sought by the local market due to their superior flavour and freshness compared to imported walnuts ⁸.

Counter-seasonal production is Australia's main competitive advantage for future exports, with Australian walnuts coming on stream when the major exporting countries in Europe and the USA have low stocks of nuts. Australian walnuts bear fruit in May and June and as a result the Australian walnut industry has identified Europe as having the greatest potential for Australia to export future produce ⁷.

The reason behind this is the fact that Australia's walnuts are able to hit the markets of Europe with fresh quality walnuts when their demand is at its peak in Christmas. Harvesting their fruit in November and December, the world's leading exporter of walnuts, the USA, is unable to meet Europe's Christmas demand, leading to a competitive advantage to Australian walnut producers.

5 Possible Price Scenarios

World walnut prices historically fluctuate considerably, however since 2000, price fluctuations have become much more moderate. In 2004 and 2005 walnut prices managed to reach record levels despite supplies also being the highest on record for each respective year. Strong international demand over the recent years has been the underlying reason in helping growers receive higher prices and ironing out the strong correlation between price received and size of the crop for the year ¹³.

The price of walnuts in Australia is heavily influenced not only by quality, but time of year, location and the level of processing to the nut. The majority of walnuts that producers sell within Australia are sold in-shell. According to a leading walnut industry expert in Australia, unprocessed walnuts currently have a value of around \$6/kg, with processed walnuts having the potential to command a price 4 or 5 times this figure ⁷. With Australia remaining a small producer of walnuts on a world scale, it is vital that the Australian industry is able to tap into this premium market in the future.

6 Future Outlook and Conclusions

The outlook for Australia's walnut industry looks very promising, with the industry set to continue increasing its production. Considering the 150% increase in Australia's walnut production over the past decade and the large recent increases in plantings, Australia has the ability to become self-sufficient in the mid future and expand export marketing opportunities.

Recent advances in research and development has sparked a new wave of interest by investors into the industry with newly developed plantations being in the vicinity of 12,000 to 500,000 trees. In contrast traditional growers tended to have plantations of 100 to 1,000 trees ¹⁶. In addition, positive predictions for the future from industry leaders have also helped increase the attraction of the walnut industry ⁷.

Domestic production is likely to surpass domestic consumption in the mid future and so it is imperative that Australia's domestic demand for its produce is increased, by making consumers more aware of the health benefits associated with walnuts and their versatility as a food and ingredient.

Although exports are currently limited, they will soon be crucial for the success of the Australian walnut industry. Australia is the second largest southern-hemisphere producer of walnuts behind Chile. Consequently developing key relationships internationally, particularly in Europe, where Australia has a real competitive advantage, due to counter-seasonal production of high quality nuts, is essential in expanding marketing opportunities.

It has been recognised that in spite of a flood of cheaper imported walnuts onto Australia's market, there is little threat to domestic production and price for Australia's walnuts due to their high quality. Continuing to concentrate on growing quality walnuts over quantity is the best way for Australia to compete with cheaper and inferior import alternatives. Value-adding is also a key marketing opportunity for the Australian walnut industry to capitalise on. Australia's clean and green image also helps to maintain favourable perceptions of Australian walnuts internationally.

7 References

1. Adem, H. (2003), 'Walnuts' Australian Walnut Industry Association, Retrieved March 2007 from www.walnuts.net.au
2. California Walnuts, 'California Walnut history, cultivation and processing', Retrieved March 2007 from www.walnuts.org
3. California Walnuts, (2005), 'California Walnut Industry Fact Sheet' Retrieved 11/10/2005 from www.walnuts.org
4. Virginia Tech (2001), 'Black Walnut', Non-timber forest products, Retrieved March 2007 from www.sfp.forprod.vt.edu
5. Adem, H. (1997), 'Walnuts', RIRDC, Retrieved October 2005 from www.rirc.gov.au
6. Adem, H. et al (2000), 'High yields and early bearing for walnuts,' RIRDC, Retrieved October 2005 from www.rirc.gov.au
7. Adem, H. October 2005, (Pers. Comm.)
8. Australian Nut Industry Council (2007), 'Australia's Nut Industry'
9. Horticulture Australia, (2005), 'Walnuts' Retrieved October 2005 from www.horticulture.com.au
10. The Australian Horticulture Statistics Handbook 2004 (2004), 'Walnuts,' Retrieved October 2005 from www.horticulture.com.au
11. FAO (2005), Retrieved March 2007 from www.faostat.org
12. FAS (2004), 'The US and World Situation: Walnuts', Retrieved March 2007 from www.fas.usda.gov
13. USDA (2005), 'Commodity Highlights: Walnuts,' Fruit and Tree Outlook, Retrieved November 2006 from www.usda.gov
14. Boriss, H. (2006), 'Commodity Profile: English Walnuts', Retrieved March 2007 from www.aic.ucdavis.edu
15. Department of Agriculture, Fisheries and Forestry (2005) 'Horticulture Fact Sheet', Retrieved November 2006 from: www.daff.gov.au
16. Adem, H. et al (2004), 'Walnut Industry – Research and Best Practice Implementation, RIRIDC, Retrieved March 2007 from www.rirc.gov.au

Disclaimer

This document has been prepared for use by Financial Planners. Australian Agribusiness Group (AAG) has received no fee for undertaking this report. AAG notes that this report is for information purposes only; it does not constitute stand-alone advice. The user must undertake their own research prior to any investment decision and such investment decision is made entirely on the recognisance of the investor. This report is not a warranty, express or implied, of any outcome. AAG makes every reasonable effort to ensure that this report is accurate and reasonably reflects the facts. Information is sourced from industry experts, private and public sector research, public domain sources and the web, as well as from the substantial in-house resources of AAG. AAG and its employees disclaim any liability for any error, inaccuracy or omission from the information contained in this report and disclaim any liability for direct or consequential loss, damage or injury claimed by any entity relying on this information, or its accuracy, completeness, currency or reliability. AAG point out that this industry and all commercial activity is affected by the passage of time, income, yield and expense factors. In reading this report the user accepts this statement and sole responsibility for the impact of such change on their investment decisions.

