



Australia's Nut Industry

**A case for high priority in
export market development
and export market access**

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**A \$1 billion
Australian
nut industry
is in sight.**

The Australian tree nut industry is rapidly expanding. The additional production from new tree nut orchards, both planted and planned, will produce an industry with a value of more than \$1 billion within eight years and exports of \$1 billion in about a decade. Such an export performance would exceed the total Australian horticulture exports of 2003/04.

The long lead times in nut cultivation have so far hidden this expansion from the production and export statistics. It is time to ensure that the maximum market opportunities are available for this new sector of Australian agriculture.

This imminent expansion in production has important policy implications. Nuts need to figure in policy directions and government decisions, particularly in the area of trade negotiations.

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Tree nuts provide alternative production options to the older Australian agricultural industries.

Capital and expertise have combined to rapidly expand the areas under nut cultivation in Australia. The industry is a mixture of large ‘corporate’ farms and medium- and small-sized family farms.

Nut growing converts land from broadacre crops with low returns per hectare to intensive crops with high returns per hectare and per megalitre of water applied.

Current Australian nut production has a commercial value of about \$350 million. Orchards already planted and/or planned for planting within the next three years will produce crops worth more than \$1 billion within eight years.

Despite an expanding domestic market, most of that new production will be exported. Exports are projected to be valued at about \$1 billion per year within a decade.

Capital for expansion of nut orchards has been committed in the belief that the industry can expand on the existing markets of Japan, Europe, Asia, the Middle East and the United States (US). The industry needs to make the most of export market development opportunities. These opportunities will be greater if import tariffs are lowered and unrealistic sanitary and phyto-sanitary protocols are avoided.

Many of the countries with whom Australia is negotiating free trade agreements (FTAs) – including Singapore, China and the United Arab Emirates (UAE) – are nut importers with significant potential for growth. Such markets have little or no domestic production to protect, but frequently have high revenue tariffs that restrict nut consumption.

The Australian tree nut industries show a comparative advantage over competitors in a number of areas. Depending on the industry, advantages may take the form of lower per unit production costs, higher yields and a ‘country of origin’ gene pool. This allows Australia to compete (produce and process) with countries that have lower labour costs. In addition, Australian tree nut production generally reflects a high level of supply complementarity into key importing markets – by way of supply windows and enhanced quality.

Tree nut industries require long-term development capital, technological skills and research to build

on advantages. With the support of R&D funding, Australia is producing some of the highest kernel yields per hectare in the world for almonds, pecans and macadamias. Long-term breeding programs aimed at improved varieties are also in progress.

The world tree nut trade involves minimal market distortion and government interference – allowing supply and demand signals to be interpreted relatively transparently. Tree nut prices and production are not plagued by the export subsidies or other incentives that many other commodities face due to the agricultural support programs of the US and Europe. The recent failure of the Doha Round suggests the competitive position of affected commodities is unlikely to change in the foreseeable future.

Tree nuts also provide alternative production options to the older Australian agricultural industries currently under pressure from low labour costs and heavily subsidised overseas competitors.

Australia’s tree nut orchards use few, if any, pesticides, promoting the image of Australia as a clean and safe producer of foods. In addition, nut industries can generally afford an enlightened sense of environmental awareness and act on it in such areas as vegetation management and the application of more pest-specific chemicals as part of integrated pest management.

The Australian nut industry receives no significant tariff or quarantine protection. It is an industry that has grown largely on its own efforts due to international competitiveness. The government assistance required is to ensure that there are the maximum international market opportunities available. The international trade and bilateral agreements that Australia is negotiating with other countries are unlikely to be renegotiated for 5-10 years. Australian nut production will need those markets within that time span.

Now is the time to identify the potential of Australian tree nuts as a serious contributor to Australian agricultural income in the years ahead and ensure that the nut industries achieve appropriate recognition in Australian government negotiations to reduce tariff and maintain biosecurity access.

Australia’s tree nut orchards use few, if any, pesticides, promoting the image of Australia as a clean and safe producer of foods.

The industry's development – now and into the future

Most of the Australian nut industries began with a small band of devoted, innovative pioneers.

In need of new technology to harvest and process nuts, the early years were difficult and slow. Translating overseas experience to Australian soils and conditions has taken time, patience and sometimes significant stubbornness to persevere with nut production. While the nut industry has in most cases been building the knowledge pool for

more than 20 years, it has been the past decade in which pioneering effort has paved the way for significant and rapid industry expansion. It is now profitable to expand into large-scale commercial production from essentially 'cottage' origins.

There have been few government subsidies or assistance for nut farming. In fact, few in government circles have been aware of the nut industries' development. Those who have been, may have seen them as linked to tax minimisation.

Given a production lead time of some five years from planting and some 10 years till breakeven for

EXPECTED AUSTRALIAN NUT PRODUCTION

Area planted, ha	2006	2011	2016	2020
Almonds	18,593	35,104	40,163	44,000
Chestnuts	1,040	1,240	1,440	1,600
Macadamias	17,700	21,575	26,075	30,050
Pecans	1,010	1,200	1,350	1,350
Pistachios	840	1,740	2,740	3,540
Walnuts	1,140	7,140	11,640	13,640
Total hectares	40,323	67,999	83,408	94,180
Production, tonnes	2006	2011	2016	2020
Almonds, kernels	16,509	57,617	102,408	114,708
Chestnuts, in-shell	1,200	2,200	3,200	4,000
Macadamias, in-shell	40,000	53,823	84,834	104,569
Pecans, kernels	2,350	2,374	2,453	2,744
Pistachios, in-shell	1,000	1,792	3,179	5,704
Walnuts, in-shell	400	4,855	32,115	52,050
Total production, tonnes	61,459	122,661	228,189	283,775
Value \$m	2006	2011	2016	2020
Almonds	116	403	717	803
Chestnuts	7	13	19	24
Macadamias	183	246	388	478
Pecans	28	28	29	33
Pistachios	9	16	29	52
Walnuts	2	19	128	208
Total \$m	345	725	1,310	1,598
Export surplus, value \$m	2006	2011	2016	2020
Almonds	29	303	601	672
Chestnuts	1	6	10	14
Macadamias	149	207	342	427
Pecans	15	13	12	13
Pistachios	–	–	–	18
Walnuts (net of imports)	–	–	84	158
Export value \$m	194	529	1,049	1,302

There is good reason to believe that the Australian nut industry can continue to prosper with minimal government financial assistance.

most nut trees, there is no doubt that the income gap is long and the requirement for external capital is large.

There is good reason to believe that the Australian nut industry can continue to prosper with minimal government financial assistance. However, governments need to be aware of the opportunities for the expected growth in tree nut production and export availability and give these industries priority in agriculture trade development.

Nut growing has the real prospect of providing alternative and profitable avenues for growers of traditional broad-acre crops that are increasingly confronted by subsidised competition into mature markets.

Tree nuts also provide an alternative for growers of other horticultural crops facing international trade pressure from low wage countries.

The attraction may be enhanced by the inability of the lower labour cost countries to withstand the income and cash flow gap inherent in tree nut production. Low labour cost countries are not automatically seeking or achieving a share of the world tree nut trade.

Australia's competitive advantages

Australia has an excellent combination of the necessary factors to be a successful grower of nuts:

- Access to horticultural skills and R&D.
- Relatively low cost land.
- Ability to pay market value for water.
- Increasing focus on clean and green (and organic).
- Access to capital.
- Development of labour-saving technology.
- Organised industries structure.
- Home-grown gene pool.

Horticultural skills

Growing nuts on some of the world's poorest soils and generally in a hot, dry climate is a challenge. Australian nut farmers have become good at it. In the process, Australian nut farmers have developed horticultural skills that have put them in the forefront of the world for nut yields per hectare and quality.

Australian almond growers, for example, have become especially proficient at managing the interaction between water and nutrients on Sunraysia soils to consistently achieve higher yields and lower per unit production costs than competitors. The use of continuous soil moisture monitors, an Australian development in its own right, has been a critical element in this success.

Australian pecan growers have demonstrated that they are leaders in product quality, attracting a price premium against US suppliers in the traditional markets.

Australian macadamia growers, who have the advantage of working with the native gene pool, are the leaders in farm-based research and have placed heavy emphasis on integrated pest management to maximise recovery of sound kernel.

The ability to plant and manage large areas quickly in difficult terrain has been a feature of the recent expansion of Australian nut farming. These are skills not generally apparent in other nut growing regions of the world. Almond and pecan growers from traditional growing countries such as the US regularly visit Australia to learn Australian techniques. The Australian macadamia industry is the key provider of research and development information to the rest of the world.

A dogged focus on managing climate, coupled with the relative freedom from disease, gives the Australian nut industry an advantage.

The vision shown by the Australian nut industry is similar to the innovation Australia has shown in viticulture.

Low cost land

Much of the land now being converted to nut production in Mediterranean climate regions of south-west NSW, north-east Victoria and north-east South Australia has been used for relatively low value broad-acre crops.

With a change to nuts, and the addition of irrigation and horticultural skills, the output value has risen from a few hundred dollars to many thousands of dollars per hectare.

Not all wheat/sheep properties can be converted to nuts. While nuts can generally be grown on poor soils, they do have some minimum requirements that most Mallee soils lack. This creates a limit to nut farming – and a natural barrier to the tendency of agriculture to overproduce.

The macadamia industry began in the 1960s on what was low-cost subtropical rainforest land adjacent to the east coast of northern NSW and southern Queensland. Much of the traditional dairying land has undergone a many fold increase in value, bolstered by interest from ‘lifestyle’ land buyers.

The industry is now expanding into central Queensland on traditional sugar cane land. In the past decade, the sugar industry, like most broad-acre crops, has faced low prices and environmental stress. The emergence of energy-related uses for sugar cane will affect the production trend, but the expansion of macadamias into these areas provides a viable alternative for cane growers who are seeking to diversify.

Water efficiency

Nuts are efficient users of water with a high dollar return for each megalitre of water used.

The major expansion of nut orchards has occurred in the past decade, with an appreciation that water is a major limiting factor. The irrigation technology used has been of the highest standard and latest design. Almost all recent nut developments have been with pressurised irrigation systems without open channels. The almond industry has led the way with pulse drip – a technology that further increases the return per unit of water applied.

The gross margin for a crop per megalitre of water used is difficult to measure. The water requirements for different crops can vary in different locations.

Almonds, pistachios, pecans and walnuts largely rely upon irrigation water. Macadamia, chestnuts and hazels largely rely on rainfall. Recent macadamia orchards have been designed to use supplementary irrigation water.

Typically, the gross margin for nuts is about \$2,000 per megalitre of water used. Rice and grasses, the major users of irrigation water in Australia, achieve gross margins of about \$100 per megalitre.

The emerging free market for irrigation water will ensure that precious water is allocated to crops that produce the highest values. This provides exit strategies for those farmers wishing to leave the irrigated industries that have relatively lower returns. It also ensures that the community receives a high return for each precious megalitre of water invested in agriculture.

The nut industries welcome the free trade in water announced by the recent meeting of heads of government concerned with the Murray-Darling basin.

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TYPICAL WATER EFFICIENCY FOR NUTS

	High Usage ML/ha	Low Usage ML/Ha	Gross Margin \$/ML
Almonds	15	9	\$1,800 – \$2,400
Pecans	11	9	\$1,200 – \$1,500
Pistachios	9	6	\$1,800 – \$2,200
Macadamias	6	3	\$900 – \$1,200
Walnuts	11	8	\$1,500 – \$1,800

Yields are based on average yields from well-managed, mature orchards. The gross margin is based on current farmgate prices.

Nut trees are carbon sinks for at least half their life.

Clean and green

Australia is seen in consuming countries as clean and green. Our relative isolation has generally provided Australian agriculture with a pest and disease free environment – another competitive advantage.

The almonds, pistachios, walnuts and pecans grown in the arid parts of Australia have extremely low pesticide use compared to their foreign competitors. Some are grown without the use of any insecticides. Apart from lowering the cost of production, this presents market opportunities with consumers who are seeking minimal use of farm chemicals and/or organically grown product.

The general isolation of nut production regions also provides a pollution-free environment. The skies are blue and intense – exactly the requirements for photosynthesising trees. A major competing nut-growing area, the San Joaquin Valley in California, has a serious air pollution problem – the constant smog reduces plant sunlight and growing capacity. This is regarded as a major reason for the higher yields of almonds and grapes in Australia.

Nut trees are carbon sinks for at least half their life. This may present tree nuts with an early income-generating option if a carbon trading market is established in Australia.

The tyranny of distance generally means that most agricultural commodities carry a high freight cost in most markets. However, the high value of nuts compared to most broad-acre crops means the freight cost is relatively insignificant. For example, a 20 foot container of almonds or macadamias has a market value of at least \$150,000 compared to \$4,500 for a container-load of wheat.

Lack of government subsidies

The nut industries receive little assistance from government. Import tariffs have long been zero or very low. Since the negotiation of the FTA with the US, there is effectively no tariff protection of Australian nut industries. However, nut industries often face significant tariff barriers in current and potential export markets.

Australian almond and pistachio growers lost

\$4 million a year in returns when the import tariff on US imports was eliminated. No government compensation was sought or paid to those growers – in contrast to significant financial assistance to industries considered to have lost out as a result of this FTA.

Economic protection associated with quarantine (sanitary and phytosanitary requirements) has been minimal. To ensure quarantine-related market access is maintained, nuts must be treated (heat or other) but it is low cost and generally consistent with accepted commercial practice.

While AQIS regularly inspects nut import shipments, the total quarantine cost is estimated to add less than \$0.02/kg to the cost of nuts that have a \$8–\$15/kg market value.

Almost all the Australian nut industries, with the possible exception of the native macadamia (which began with a clear export focus on the US), developed as import substitution industries. As such, nut industries have grown and prospered in the face of global competition. This expansion is expected to continue, given fair market access.

The nut industries have expanded alongside more favourable taxation treatment of other delayed-production industries – including viticulture. While nuts growers must capitalise initial establishment and operating costs for some years, depreciation benefits are provided on the establishment of wine grapes.

The culture of the nut industry is to succeed without a handout. This self-reliance is considered to give the nut industry considerable underlying strength.

Important and valuable government assistance is provided through financial support of industry research and marketing programs, managed through Horticulture Australia Ltd (HAL). Similarly, the industry assistance from the state agriculture departments is also significant.

Nevertheless, the nut industries generally have high grower (levy) contribution rates for R&D and marketing programs and high levels of grower support for them. This reflects the industry's belief that the way forward is with better farming practices and better marketing techniques – mostly developed and/or adapted by the industry itself. The ongoing support from HAL and the state departments is invaluable and an essential element in maintaining industry competitive advantage.

The culture of the nut industry is to succeed without a handout.

Capital

Nut growing requires significant capital input. No nut crop earns sufficient return to cover costs before the fifth year (with macadamias and pecans, it's more likely the eighth year). This delay in the possibility of a return on investment has a significant impact on nut industry investment.

The current strong Australian economy, with 16 years of continuous growth, has provided a source of development capital. In some cases, that capital is being marshalled through Managed Investment Schemes but there are also a large number of privately funded nut orchard expansions and new planting investments.

Other competing developed economies, such as the US, are also able to provide such development capital and are expanding nut production – to the extent that suitable farming land and conditions are available.

However, the low labour cost countries are showing very narrow expansion. The imperative for short-term cash income ensures that farmers in most developing countries are focusing on quick cash flow crops, such as vegetables and fast-maturing fruit trees, that can be hand-harvested (and processed).

Access to adequate capital is an important element in comparative advantage for Australia, helping to ensure that there are at least several decades before low wage countries can produce significant quantities of nuts (and become a greater marketplace challenge).

Low labour input

Nut tree farming has developed to the point that it has relatively low labour input – the major production and processing operations take place mechanically.

The decline in labour use is expected to continue, in contrast to many horticultural crops that require hand harvesting. The exception to this trend relates to the nut orchard establishment phase, which requires experienced and skilled labour to ensure environmentally sound orchard layout and planting.

Labour is also required in the processing plants, where the nuts are shelled and graded, but this is relatively low with the use of electronic sorting equipment.

The current shortage of skilled labour in regional areas is well known. This provides our US competitors with a labour cost advantage. However, assessed long-term, nut industries use relatively little labour, ensuring that Australia can access most global markets competitively. Also, many potential markets have a ready supply of labour to further process and value-add nut exports, thus providing employment in these countries.

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Well-organised, united industries

Each of the nut-producing industries has a strong, well-organised producers' association. Each industry is well supported by its growers in the planning and funding of farm research and marketing.

All operate on a single, national basis – having avoided state or regionally segmented industry decision-making.

All have a focus on maximising returns to growers by expanding horticultural skills and the market rather than protecting them.

All have well-supported grower levies or voluntary contribution schemes to support the research and marketing at levy contribution rates at or near the highest in agriculture.

The Australian Nut Industry Council (ANIC) is a federation of the producing industries. Through ANIC, the nut industries can achieve that what they cannot individually.

The Nuts for Life campaign is an initiative of ANIC. The campaign focuses on health professionals and consumers. Recent research shows that regular nut consumption as part of a healthy diet produces a significant reduction in body cholesterol and the risk of heart disease.

The well-supported, united, industry associations and the high research and marketing spend underpin the underlying strength of the Australian nut industry.

	World production tonnes (approx)	Australian est. production 2015	Australian market share
Almonds (kernels)	600,000	103,795	17%
Chestnuts (in-shell)	300,000	3,000	1%
Macadamias (in-shell)	150,000	84,000	56%
Hazelnuts (kernels)	700,000	small	~0
Pecans (in-shell)	200,000	3,000	1.5%
Pistachios (in-shell)	400,000	3,000	<1%
Walnuts (in-shell)	1,200,000	32,000	2.5%

Australia’s production competitors

The major producers against whom Australia must compete are:

Almonds: US and Spain, with a small but growing industry in Chile

Pecans: US and Mexico

Macadamias: US (Hawaii), South Africa, Brazil, Guatemala

Pistachios: US, Iran, Turkey

Walnuts: US, China, India

Australia can compete against all these suppliers on a cost and quality basis.

With the exception of macadamias, Australia will only produce a small share of world production for the medium term. This allows Australia to target niche and premium markets. The supply and consistent quality of Australian macadamias already achieves a price premium.

Home grown advantage

The Australian macadamia nut has a unique competitive advantage. It is the only Australian native plant to play a significant commercial role in the food chain. While the Hawaiians first commercialised the industry, Australia has now taken firm leadership of world production, research, marketing and development. Australia is the largest producer and largest exporter and has an extensive research program to help support and maintain this leadership.

Being the home of natural rainforests that produced the macadamia is a significant competitive advantage.

The underlying world demand

World demand for nuts is growing at about 4% a year, well above natural population growth.

This expansion is coming from an increasing awareness of the health benefits of nuts and an increasing prosperity in developing economies.

Research in the past 15 years has conclusively shown that regular nut consumption will significantly reduce the risk of heart disease. There is also research supporting the role nuts can play in diabetes and weight management. Regular nut consumption has been shown to have a positive effect on heart health. Bodies such as the National Heart Foundation are recommending that nuts be included as part of a healthy diet.

The nut health message is slowly being communicated to consumers, who are responding by increasing consumption. Over the past four years, Australian tree nut consumption has increased 50% in dollar terms and 39% by weight. The higher consumption trend reflects an increase in family budget spending on nuts, which is helping to support underlying demand.

Developing economies, such as India, China and Eastern Europe, are showing a strong demand for tree nuts. As disposable incomes rise, consumption of traditionally expensive foods increases. Nuts are not luxury foods (they are priced at similar levels to medium cuts of beef), but they traditionally have been beyond the pockets of the poor.

The evidence suggests that as economic growth and incomes increase in developing countries, so will their demand for nuts.

India has more than doubled its almond imports in six years. In 1999, it imported a little over 10,000 tonnes of almonds. In 2005, imports were about 25,000 tonnes. Similar growth performance can be seen in China and Eastern European countries.

There is little reason to doubt that the increases in nut consumption will continue into the future.

PRODUCTION AREAS

- Almonds are primarily grown in South Australia and northern Victoria. Some orchards are located in the Adelaide Hills. However, the main growing areas extend from Nildottie, north-east of Adelaide, up the Murray River as far east as Boundary Bend in Victoria. Within this area, the vast majority of orchards are located from Waikerie to Renmark in the Riverland, and from Mildura to Nangiloc and Robinvale in the Sunraysia region of Victoria. Almonds are also grown in NSW at Finley and Darlington Point.
- The almond industry is composed of family orchards, business ventures and investment company projects.

CURRENT PRODUCTION

- Area: about 13,535 ha.
- Production: about 16,000 kernel tonnes.

INDUSTRY POTENTIAL

- In five years, the area under almond production is expected to total 35,104 ha. Estimated total kernel production at that time will be 59,000 tonnes.
- Almonds have become an attractive crop for investors because the industry has proven to be profitable and stable over the long term. Reasons for this are the ability to develop and manage almond orchards as a broadacre crop and the development of new growing technologies that have enhanced profitability. Almonds have also become attractive due to a decline in the wine grape market and difficulties in producing soft fruits.
- New almond projects are expected to begin production 3–4 years after planting.
- Consumer demand for almonds has increased globally and this trend is expected to continue due to the positive nut health message.
- New market opportunities are developing due to improved living standards in developing countries.
- On a percentage basis, Australia is the fastest growing almond industry in the world and will be the second largest producer behind California in about six years. By then, the

industry will be worth between \$370 million and \$500 million at the farmgate, depending on price.

MARKETS: PRESENT AND FUTURE

- Australian almonds supply domestic consumption and an expanding export market.
- Some almonds are imported into Australia but this is a manufacturing grade product for use in baking and confectionery.
- Current domestic consumption of almond kernel is 13,000 tonnes (kernels) a year.
- Current export of almond kernel is 5,250 tonnes (kernels).
- New markets, such as China and India, are expected to provide great market potential.
- Increased consumer awareness of nut health benefits is increasing global demand for almonds. Combined with new market penetration, this is expected to underpin further industry growth.
- Consumption growth is supported by expanding marketing and promotion budgets.

COMPETITIVE ADVANTAGES

- Australian almonds are harvested fresh in the northern hemisphere off-season.
- Australian producers achieve world-renowned crop yields and product quality.
- There is a growing export demand for quality Australian almond kernel.
- Australia is close to the expanding Asian market.
- Australia is in a good position and is willing to address niche market requirements. California does not always serve these markets well and many markets are actively looking for an alternative source of reliable and high-quality product. Australia fills this need very well.



ALMONDS

CHESTNUTS

PRODUCTION AREAS

- About 70-75% of the total national chestnut crop is produced in north-east Victoria. Chestnuts are also grown east of Melbourne, in central Victoria, around Orange and Batlow in New South Wales, in the Adelaide Hills in South Australia, in Tasmania and in south-west Western Australia.
- Many chestnut orchards are small family-owned orchards, but there are several large plantings and the average size of new chestnut orchards is increasing.

CURRENT PRODUCTION

- Area: about 1,000 ha.
- Production: an estimated 1,200 tonnes a year of fresh chestnuts.

INDUSTRY POTENTIAL

- In five years, chestnut production is expected to total 2,200 tonnes as young orchards come into production.
- New varieties and improved orchard management techniques have reduced time to bearing and increased nut yield, nut size and ease of peeling.
- Many large orchards are fully mechanised as a result of new harvesting machinery being developed.
- Growers are planting and re-working older trees to newer and more consumer-friendly varieties of chestnuts.

MARKETS: PRESENT AND FUTURE

- Traditionally, chestnuts are highly valued by Europeans, North Americans, Japanese, Chinese and Koreans.
- Most growers sell the bulk of their crop through the fresh wholesale markets in each state.
- Current domestic chestnut consumption is 1,050 tonnes. This is fully supplied by domestic production.



- Small quantities of fresh chestnuts and frozen peeled chestnuts are exported to Japan and Singapore.
- The Australian industry is developing new processing techniques for frozen peeled chestnuts, chestnut meal, flour and puree products. These value-added products could be marketed locally and overseas and have the potential to expand the overall market for chestnuts.
- The chestnut industry is seeking new export markets for fresh chestnuts to sustain increased production.
- Nut size is important in the fresh chestnut market and new pruning techniques have enhanced this quality.

COMPETITIVE ADVANTAGES

- Australian chestnuts are fresh in the northern hemisphere off-season.
- Australia is free from chestnut blight, the fungal disease that has devastated orchards and native forests overseas.
- Australia is free from insect pests such as the chestnut gall wasp and chestnut weevil.
- Australia's pest-free status means chestnuts are produced without insecticides.
- In Japan, Australian chestnuts are highly regarded for good flavour and quality appeal.
- The Australian chestnut industry is consumer focused and the tree varieties selected are based on ease of peeling and flavour. Overseas, yield is generally given a higher priority in varietal selection than chestnut eating quality.

PRODUCTION AREAS

- Hazelnut orchards are scattered throughout south-eastern Australia. The main production regions are the Central Tablelands of New South Wales near Bathurst and Orange, and north-east Victoria near Myrtleford. Hazelnuts are also grown in central and eastern Victoria and throughout Tasmania.
- Many hazelnut operations are small family orchards planted to older varieties. The average size of new hazelnut orchards is increasing and they are planted to more productive varieties.

CURRENT PRODUCTION

- Area: slightly less than 100 ha.
- Production: slightly less than 50 tonnes; expected to increase as new orchards come into bearing.

INDUSTRY POTENTIAL

- By 2011, the area under hazelnut production is expected to increase to 200 ha.
- It is estimated that at this time hazelnut production could total 500 tonnes in-shell with the use of high-producing varieties identified in field evaluation undertaken by the Hazelnut Growers of Australia Ltd, with assistance of Rural Industries Research and Development Corporation.
- There is an expanding interest in growing hazelnuts in Australia.

MARKETS: PRESENT AND FUTURE

- Current domestic consumption of in-shell hazelnuts is relatively small at about 80 tonnes a year. Domestic consumption of hazelnut kernel is currently around 2,000 tonnes or 4,000 tonnes of in-shell equivalent.
- Australian hazelnuts in-shell are sold direct to gourmet food outlets, farmers' markets and fruit shops. Kernel is sold to local markets and retailers and specialist confectioners and bakers.

- Locally grown product receives a price premium and is sought by the local market due to superior flavour and freshness compared to imported hazelnuts.
- Australia imports some 2,000 tonnes of hazelnut product annually, primarily from the major producers, Turkey and Italy. The bulk of imported product is kernel.
- Due to the low cost of imported hazelnut kernel and the fact that kernel is largely an ingredient used in baking and confectionery, where price is generally of greater priority than quality, Australian product is not expected to replace imported product for this end use. However, the premium quality end of the market such as value-added snack food, specialist bakery items and confectionery such as chocolate-coated hazelnuts and fudge could be supplied by Australian-produced hazelnuts at a premium price.
- The demand for hazelnuts is increasing globally. It is expected that with the increased awareness of the health benefits of including a few grams of nuts in the daily diet, consumption will continue to increase.
- There is potential for export of hazelnut in-shell to out-of-season markets in the northern hemisphere.
- A total of 1,500-2,000 ha of well-managed plantings would meet Australia's current requirement.

COMPETITIVE ADVANTAGES

- Australian hazelnuts are fresh in the northern hemisphere off-season.
- Australia is free from Eastern Filbert Blight which has devastated crops overseas.
- Due to the absence of pests, Australian hazelnuts are produced without pesticides.
- Australian hazelnuts taste fresher than imported hazelnuts.

HAZELNUTS

MACADAMIAS



PRODUCTION AREAS

- Macadamias are grown around Alstonville and Lismore in northern NSW, and in Queensland around Gympie, Bundaberg, Rockhampton and the Atherton Tablelands.
- Family-owned orchards, business ventures and investment company projects.

CURRENT PRODUCTION

- Area: approaching 20,000 ha.
- Production: estimated at 41,000 tonnes in-shell (2006 data).

INDUSTRY POTENTIAL

- Major growth is taking place in the Bundaberg region of central Queensland with planting of larger farms.
- In five years, the area is expected to exceed 23,000 ha. At that time, production could total 54,000 tonnes (in-shell).
- There has been a five-fold increase in tree plantings in the past 20 years.
- Macadamias have become an attractive diversification crop for sugar cane growers.
- Increased profitability in recent years has increased investor interest.
- Consumer demand exceeds supply. Consumption of tree nuts including macadamias is increasing due to kernel ingredient versatility. This trend is expected to continue, supported by an increasing awareness of the health benefits of tree nuts.
- Consumption of macadamias is expected to increase in Asian countries due to a rise in living standards.
- The ability to manage urban encroachment pressures in traditional growing areas will support industry growth.
- By 2020, about 30,000 ha will be under macadamias in NSW and Queensland, with in-shell production of 100,000 tonnes. The export value will exceed \$350 million. About 55% of this will be produced in Queensland.

MARKETS: PRESENT AND FUTURE

- Macadamias are primarily sold as kernel which is processed for snack food lines and as an ingredient in food products, including food service.
- The domestic market uses about 20% of total production, 95% of which is sold as kernel.
- Kernel for the ingredient market (confectionery, bakery and ice-cream products) totals about 70% of kernel sold.
- In 2004/05 kernel equivalent exports were 9,000 tonnes, representing 80% of industry production with a value of \$146 million.
- Macadamia exports are spread relatively evenly between the US, Japan, Europe (as kernel) and China (as nut in-shell).
- European markets continue to expand in parallel with increasing consumer awareness and promotion.
- The Chinese market consumes about 40% of nut in-shell that is exported to that country for cracking. The balance is re-exported to EU and US ingredient users.
- New markets, e.g. China and India, are expected to provide great market development potential.
- Global domestic demand for macadamias is expected to increase because of rising consumer incomes supported by an industry-driven market development and promotion budget.
- Strong marketing has boosted sales into Germany and Japan.
- The promotion of health benefits is a support driver of demand and combined with new market penetration is expected to underpin further industry growth.

COMPETITIVE ADVANTAGES

- Macadamias are an Australian native.
- Australia has high product standards, with a demonstrated capacity to produce superior kernel.
- There is a strong financial commitment to export market development and farm research funded by a compulsory grower levy on production.
- Australia is close to the expanding Asian markets.

PECANS

PRODUCTION AREAS

- Production in NSW extends from the Hunter Valley and Nelsons Bay on the Central Coast, to the Mid North Coast near Kempsey and the North Coast near Lismore. Pecans are also grown in Queensland at Munduberra, Gympie, the Atherton Tablelands and Beaudesert.
- Stahmann Farms orchard at Moree in NSW accounts for about 90% of Australian production.

CURRENT PRODUCTION

- Area: 1,000 ha.
- Production: about 2,700 tonnes in-shell (1,500 tonnes kernel).

INDUSTRY POTENTIAL

- In 5–10 years the area under production is expected to expand to 1,400 ha and production is expected to increase as young orchards mature.
- Stahmann Farms, which has led the way in the development of the Australian industry, has achieved some of the highest pecan yields in the world.
- The Stahmann Farms plant at Toowoomba, Queensland, provides processing and marketing facilities for the whole industry. It has capacity to increase production.
- An established commercial processing and marketing facility allows growers to concentrate on production and provides a mechanism for maintaining product quality.
- Small processing facilities have been established to process product from small growers whose crops were previously not harvested.
- Market demand is increasing and, unlike most soft fruit crops, pecan production can be fully mechanised.
- Seasonal difficulties and land competition have led to short- and possibly long-term reductions in US supply.
- Finalisation of the NSW Water Reform Act may lead to greater certainty for new growers. An embargo on new water licences in NSW since 1996 has been an inhibiting factor in pecan development.

MARKETS: PRESENT AND FUTURE

- The bulk of Australian pecan product is sold as kernel for both domestic consumption and export market.
- Most growers send their crop to Toowoomba for processing and marketing. A small number of growers market in-shell pecans and kernel through niche shops and farmers' markets.
- Current domestic consumption of pecan kernel is 1,050 tonnes or about two-thirds of the local production.
- Potential exists to increase both domestic and export markets of pecan.
- Farmgate price is largely dependent on the US market for pecan kernel and the relevant exchange rate and shipping costs. There are no tariffs on imported product and as such the Australian industry must remain market competitive with world prices.
- Consumer demand for pecans is increasing globally. The consumption of pecans worldwide has been increasing for a number of years. It is expected that with the increased awareness of the health benefits of including a few grams of nuts in the daily diet, this rate will rise even further.
- Nuts for Life campaign is producing results and there is a noticeable rise in the profile of pecans in the past two years.

COMPETITIVE ADVANTAGES

- Australian pecans are harvested in the northern hemisphere off-season. The northern Christmas market can be supplied with fresh southern pecans rather than nuts that are from the previous year's harvest, as happens currently.
- Pecan production in Australia is not troubled by scab disease as it is in the US and innovative production techniques mean that the bulk of the Australian crop is grown without the use of pesticides.
- The processing facility in Australia is more cost competitive than the processors of our US competitors.
- Australia is close to the expanding Asian markets.



PISTACHIOS

PRODUCTION AREAS

- The major production areas are along the Murray River Valley between Swan Hill in Victoria and Waikerie in South Australia. Further plantings are in central west Victoria and Pinnaroo, South Australia. Small trial plantings have begun in Western Australia.
- A central commercial processing facility is at Robinvale in Victoria.
- The pistachio industry includes a mix of medium-sized business ventures and smaller family-owned operations. The bulk of the crop is produced on medium-sized orchards.

CURRENT PRODUCTION

- Area: 840 ha (2006 data).
- Production: average of 1,100 tonnes in-shell per year (2006 data).

INDUSTRY POTENTIAL

- By 2011, the area under pistachio production is expected to increase to 1,740 ha. It is estimated that in a decade pistachio production could average 3,700 tonnes/year (\$26 million).
- Pistachios are an attractive crop due to their hardiness in drought conditions, tolerance of poor soil and water, long tree life, and resistance to common orchard pests and diseases.
- The development of improved orchard management and quality processing techniques has now established a profitable and sustainable pistachio industry.
- An established commercial processing and marketing facility allows growers to concentrate on pistachio production and provides a mechanism for maintaining product quality.
- Pistachio production is fully mechanised, requiring minimal labour and ensuring international competitiveness.
- Processing facilities have the capacity to efficiently process increased tonnage.

MARKETS: PRESENT AND FUTURE

- Australian consumption of pistachios is 2,700 tonnes/year (2006 data). Thus, about two-thirds of demand is currently imported.
- The demand for pistachios is increasing globally and in Australia due to an increased awareness of the health benefits of including a few grams of nuts in the daily diet.
- Pistachios are primarily consumed as a snack food. This market sector is growing in Western countries. Consumption of snack foods is also increasing in developing countries as disposable incomes expand.

COMPETITIVE ADVANTAGES

- Australian pistachios are harvested fresh in the northern hemisphere off-season.
- Pistachio crops in Australia are less troubled by pests than they are overseas. Lower chemical usage reduces the cost of production and Australia can exploit the clean, green image of its agriculture.
- The low labour inputs ensure that Australia can compete with California and Iran, the two major producers.



PRODUCTION AREAS

- The major production areas in Australia are on the east coast of Tasmania, in Victoria in the Goulburn Valley near Shepparton and the Murray Irrigation Area near Kerang and Swan Hill, and the Riverina near Griffith in NSW.
- Small-scale orchards are scattered in the Ovens Valley, Gippsland and Central regions of Victoria, in the NSW Southern Highlands, in the Adelaide Hills and Riverland regions of South Australia, and in south-west Western Australia.

CURRENT PRODUCTION

- The 2006 area under cultivation was 1,140 ha. This is expected to rise to 7,140 ha by 2011.
- The Australian industry is a mix of small, older orchards and new, more extensive orchards. Most orchards are family operations but these do not represent the majority of hectares under cultivation.
- Webster Limited is the largest orchard managing 650 ha of walnuts in Tasmania and 250 ha in the Riverina. Webster's goal is to establish 2,000 ha by 2007. When mature, these orchards are expected to produce about 10,000 tonnes in-shell.
- Production in 2004 was about 400 tonnes. This is expected to increase dramatically within the next five years as new orchards come into bearing. A number of commercial growers and investment companies are currently investigating new walnut orchard projects.

INDUSTRY POTENTIAL

- Walnuts have become an attractive crop for investors. Reasons for this include problems in other horticultural crops, particularly wine grapes and soft fruits. Harvest can be fully mechanised and the market is relatively stable.
- New varieties and improved propagation and orchard management techniques have reduced time to bearing and increased nut yield.
- Australia is in a favourable position as there is limited scope for walnut production across the southern hemisphere due to the lack of suitable climatic conditions, water, soil types and topography and capital raising ability.

MARKETS: PRESENT AND FUTURE

- 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 and confectionery. Locally produced product is expected to supply the total domestic consumption of walnut in-shell in the next 3–5 years. Despite a premium price, Australian walnuts in-shell are sought by the local market due to superior flavour and freshness compared to imported walnuts.
- Due to the low cost of imported walnut kernel and its use largely as an ingredient in baking and confectionery, where price is of greater priority than quality, Australian product is not expected to replace imports for this use. However, Australian walnuts can supply the premium quality end of the market (e.g. value-added snack food, and decoration for bakery items and confectionery) at a premium price.
- The bulk of the expanded Australian walnut production will be exported in-shell.
- The demand for walnuts is increasing globally. World consumption has been increasing at a steady rate of about 4% per year. With the increased awareness of the health benefits of including a few grams of nuts in the daily diet, this rate is expected to rise.
- By 2010 the major market for Australian walnuts is expected to be the export of in-shell walnuts to Europe.

COMPETITIVE ADVANTAGES

- Australia has the opportunity to become a reliable exporter of off-season walnuts. Australia can easily ship new crop walnuts into Europe for the Christmas trade whereas the Californians struggle to make deliveries with a September harvest. The Christmas market is a large in-shell market (15,000 tonnes for Germany alone and 25,000-30,000 tonnes for all of Europe).
- Walnuts are not troubled by insect pests in Australia and so chemical use is low in walnut production. This means production costs are lower than for other world producers and the product is free from insecticides.



WALNUTS

APPLIED TARIFFS ON NUTS IN SELECTED MARKETS – DATE OF COMPILATION 26.4.06

	Almonds in-shell	Almonds shelled	Almonds p/p	Chestnuts fresh/dried	Chestnuts frozen	Macas in-shell	Macas shelled	Macas p/p	Pecans in-shell	Pecans kernels	Pecans p/p	Pistachio in-shell	Pistachio shelled	Pistachio p/p	Walnuts in-shell	Walnuts shelled
China	08021100	08021200	20081920	08024010	08119010	08029049	08029049	20081920	08029090	08029090	20081920	08025000	08025000	20081920	08023100	08023200
MFN	24	10	13	25	30	24	24	13	24	24	13	10	10	13	25	20
Chile	*3	*3	*3	*3	*1	*2	*2	*3	*2	*2	*3	*3	*3	*3	*3	*3
*1 Elimination of MFN tariff over 2 years from 1 January 2006 with zero tariff from 1 January of year 2 (2007)																
*2 Elimination of MFN tariff over 5 years from 1 January 2006 with zero tariff from 1 January of year 5 (2010)																
*3 Elimination of MFN tariff over 10 years from 1 January 2006 with zero tariff from 1 January of year 10 (2015)																
Hong Kong	080211	080212	200819	08024000	081190	080290	080290	200819	080290	080290	200819	08025000	08025000	200819	080231	080232
MFN	free	free	free	free	free	free	free	free	free	free	free	free	free	free	free	free
India	08021100	08021200	20081920	08024000	08119090	08029090	08029090	20081920	08029090	08029090	20081920	08025000	08025000	20081920	08023100	08023200
MFN	35Rs/kg	100Rs/kg	30	30	30	100	100	30	100	100	30	30	30	30	30	30
Japan	080211200	080212200	200819222	08024000	081190290	080290200	080290200	200819221	080290300	080290300	200819223	08025000	08025000	200819228	080231000	080232000
MFN	2.4	2.4	5	9.6	12	5	5	5	4.5	4.5	5	0	0	5	10	10
Malaysia	080211000	080212000	20081920	080240000	081190100	080290900	080290900	20081920	080290900	080290900	20081920	08025000	08025000	20081920	080231000	080232000
MFN	free	free	6	free	free	free	free	6	free	free	6	free	free	6	free	free
<i>Note: Australia and US are negotiating FTAs with Malaysia</i>																
Singapore	080211	080212	200819	08024000	081190	080290	080290	200819	080290	080290	200819	08025000	08025000	200819	080231	080232
MFN	free	free	free	free	free	free	free	free	free	free	free	free	free	free	free	free
S. Korea	0802110000	0802120000	2008199000	08024010000	0811901000	0802909000	0802909000	2008199000	0802909000	0802909000	2008199000	0802500000	0802500000	2008199000	0802310000	0802320000
MFN	8	8	50	50	30	30	30	50	30	30	50	30	30	50	50	50
Chile	*1	*1	*2	*4	*3	*4	*4	*2	*4	*4	*2	*4	*4	*2	*2	*2
<i>United States Korea-USA FTA under negotiation</i>																
<i>Notes:</i>																
*1 Elimination of MFN tariff over 5 years from 1 January 2006 with zero tariff from 1 January of year 5 (2010)																
*2 Elimination of MFN tariff over 7 years from 1 January 2006 with zero tariff from 1 January of year 6 (2012)																
*3 Elimination of MFN tariff over 10 years from 1 January 2006 with zero tariff from 1 January of year 10 (2015)																
*4 To be negotiated after the end of the Doha Development Agenda of the WTO																
Taiwan	080211005	0802121003	2008191005	0802401000	0811901107	0802902007	0802902007	2008193001	0802902007	0802902007	2008193001	0802500009	0802500009	2008192003	0802310003	0802320002
MFN	10	40	10	25	40	10	10	30	10	10	30	10	10	10	10	10
Thailand	080211	080212	200819	08024000	081190	080290	080290	200819	080290	080290	200819	08025000	08025000	200819	080231	080232
MFN	8.5b/kg	8.5b/kg	25b/kg	8.5b/kg	27.5b/kg	8.5b/kg	8.5b/kg	25b/kg	8.5b/kg	8.5b/kg	25b/kg	8.5b/kg	8.5b/kg	8.5b/kg	8.5b/kg	8.5b/kg
Australia	free	*1	*2	free	free	*1	*1	*2	*1	*1	*2	*1	*1	free	free	free
<i>United States Thailand-USA FTA under negotiation</i>																
<i>Notes:</i>																
*1 Elimination of MFN tariff over 5 years from 1 January 2005 with zero tariff from 1 January of year 5 (2009)																
*2 Elimination of MFN tariff over 6 years from 1 January 2005 with zero tariff from 1 January of year 6 (2010)																
N. Zealand	08021100	08021200	20081909	08024000	08119019	08029000	08029000	20081909	08029000	08029000	20081909	08025000	08025000	20081909	08023100	08023200
MFN	free	free	free	free	5	free	free	free	free	free	free	free	free	free	free	free
Canada	0802110000	0802120000	2008191010	0802400010	0811909030	0802900091	0802900092	2008199030	0802900011	0802900012	2008199040	0802500010	0802500020	2008191020	0802310000	0802320000
MFN	free	free	free	free	free	free	free	6	free	free	6	free	free	free	free	free
<i>Note: Tariffs for produce from US and Mexico subject to NAFTA</i>																



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