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Australia

Tree Nuts

Tree Nuts Annual

1999

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Report Highlights:

1998 crop smaller than expected.

1999 crop forecast to reach 30,000 MT.

Plantings and yields continue to increase.

Export markets expand.

Includes PSD changes: Yes
Includes Trade Matrix: Yes
Annual Report
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Executive Summary

The macadamia nut is indigenous to Australia with commercial production centered in North-Eastern New South Wales (N.S.W.) and South-Eastern Queensland. These areas provide the rich soils and high annual rainfall needed to promote growth and consequently account for around 90 percent of production. The remainder of plantings are located on the mid-north N.S.W. coast and in central and northern Queensland. There are some small plantings in Western Australia.

The 1998 crop was much smaller than was initially forecast due to adverse weather conditions experienced during the growing season. The industry reports that the amount of sound kernel was also reduced. Protracted rain at flowering during September 1997 reduced the yield of the 1998 crop.

The 1999 crop is set to rebound with the Australian Macadamia Society (AMS) forecasting production at 30,000 MT on a nut-in-shell basis. The forecast takes into account increasing yields as trees mature.

During 1993-1997 the acreage planted to macadamias doubled to 12,000 hectares, while production expanded by 129 percent. While domestic consumption has been increasing in recent years, the industry exports over 60 percent of production.

Many plantings are yet to reach full yield potential and significant areas are still being planted, especially around Bundaberg, Queensland. The AMS estimates that as at 1998 there are 3,250,000 macadamia trees planted in Australia of which 45 percent are mature, 30 percent are in the early bearing stage and 25 percent are not currently bearing.

The average size of farms is about 40ha, which is reported to be significantly larger than the Hawaiian average of 4ha.

Historically the US has been Australia's single largest export market. During the 1990's, increased global supply and a subsequent decrease in the price paid on the US market, led to the industry concentrating on diversifying export markets and expanding the domestic market. The US is still the major single country market, but the Asian market, which Japan and Hong Kong dominate, accounted for between 45-55 percent of total exports during the 1996-97 and 1997-98 years. Europe is a rapidly growing destination with Belgium, Germany and the Netherlands being important markets.

The vast majority of macadamia nuts go from farms to processing factories for drying, cracking and subsequent value-adding treatment of the kernels.

There are around 12 commercial processors of macadamia nuts in Australia with most of the processing undertaken by six major companies. Five of these companies do their own marketing.

Macadamia Nuts, Shelled

Production

PSD Table			UNITS: (HA, K TREES, MT)			
Country:	Australia					
Commodity:	Macadamia, Inshell Basis					
		1997		1998		1999
	Old	New	Old	New	Old	New
Market Year Begin		07/1996		07/1997		07/1998
Area Planted	12000	12000	12050	12050	0	12100
Area Harvested	9000	9000	9200	9200	0	9600
Bearing Trees	2250	2250	2400	2450	0	2550
Non-Bearing Trees	850	850	800	800	0	800
Total Trees	3100	3100	3200	3250	0	3350
Beginning Stocks	0	0	0	2500	0	1000
Production	25000	25400	27500	24500	0	30000
Imports	0	0	0	0	0	0
TOTAL SUPPLY	25000	25400	27500	27000	0	31000
Exports	14141	15141	16000	16959	0	19000
Domestic Consumption	8000	7759	9000	9041	0	11000
Ending Stocks	2859	2500	2500	1000	0	1000
TOTAL DISTRIBUTION	25000	25400	27500	27000	0	31000

General

The macadamia nut is indigenous to Australia and is sometimes known as the "Australian Bush Nut", the "Queensland Nut", or the "Bauple Nut". The Proteaceae (macadamia family) grow in subtropical climates and require precise climatic conditions. *Macadamia integriflora*, the main commercial species accounting for about 98 percent of total production, naturally occurs within 15 miles of the coast from lower Beechmont to Mt. Bauple, Queensland. *Macadamia tetraphylla* is native mainly to New South Wales, it has a rougher shell, and is adapted to more temperate conditions. Many hybrids have been developed.

During 1993-1997, the acreage planted to macadamias doubled to 12,000 hectares, while production expanded by 129 percent. While domestic consumption has been increasing in recent years, the industry remains export-orientated, exporting over 60 percent of production.

Commercial production is centered in North-eastern New South Wales and South-eastern Queensland, which provide the rich soils and high annual rainfall needed to promote maximum growth. These areas account for around 90 percent of production with the remainder of the plantings being on the mid-north N.S.W. coast and in central and northern Queensland. There are some small plantings in Western Australia.

The macadamia nut is harvested as nuts mature and fall during autumn and winter (March to September).

It is estimated that about 700 farms produce macadamia nuts commercially in Australia. Nearly 650 growers are members of the Australian Macadamia Society Ltd (AMS). The AMS is peak industry body for the industry.

A relatively large percentage of macadamia farms are owned by professional people such as doctors, lawyers, engineers, pilots, accountants and the like. Absentee owners are a significant feature of north coast horticulture in the macadamia, avocado, lychee and low-chill stone fruit industries.

During the 1970s and early 1980s, a number of macadamia plantations were established as corporate farming ventures. Investors bought shares in operations that in many instances are managed on a day-to-day basis by management consultants.

The 1998 crop was much smaller than was initially forecast due to adverse weather conditions experienced during the growing season. The industry reports that the amount of sound kernel was also reduced. Protracted rain at flowering during September 1997 reduced the yield of the 1998 crop.

The 1999 crop is set to rebound with the AMS forecasting production at 30,000 MT on a nut-in-shell basis. The forecast takes into account increasing yields as trees mature.

Crop Area

Rich, deep soils and high rainfall or irrigation are needed for optimum growth. The AMS estimates that the area planted to macadamia nuts as at 1998 is 12,050 hectares and includes 3,250,000 trees. Of these trees the AMS estimates that 45 percent are mature, 30 percent are in the early bearing stage and 25 percent are not currently bearing.

The total harvested area in 1997/98 is estimated at 9,200 hectares. Harvested area and production will continue to increase in the medium term.

A note of caution is needed when forecasting future production as yield problems have been reported in mature trees. Yield reducing problems associated with orchard age include increased infestations of insects; increased opportunities for fungal and other diseases; and product loss to vermin which hide in the canopies.

Many orchards were planted at very high densities in the 1980's and early 1990's and as trees mature up to 50 percent of them must be removed to maintain tree vigor. This results in per hectare yields decreasing until the remaining trees become larger and thus increase their yields.

Recent plantings in the Bundaberg area total more than 250,000 trees. Individual plantings are reported to comprise between 40,000 and 100,000 trees per farm. This represents farms of 100-300 ha. These trees will not commence production until around 2000.

The AMS reports that planting density has changed dramatically in the Australian industry over the last 25 years. During the 1970's planting density was around 175 trees per hectare. Planting density increased to over 300 trees per hectare in the late 1980's due to efforts to encourage trees to bear earlier in the season. However problems associated with over crowding has seen the planting density decrease to the current level of around

275 trees per hectare.

According to AMS estimates, the industry employs about 1600 people, with 1000 being engaged in nut production, harvesting and consultancy, and the remainder in processing and marketing.

The average size of farms is about 40 ha, which is reported to be significantly larger than the Hawaiian average of 4 ha.

Yield

The AMS reports that mature trees will yield between 20 to 30 kg nut-in-shell (NIS) per tree per tree, which is similar to Hawaiian production. However, average Australian yields are reported to be around 15-20 kg NIS/tree. Most Hawaiian trees are already mature and thus achieve a higher yield per tree than in Australia.

Yields are believed to be lower in Australia for a combination of reasons. While the macadamia tree is an Australian native, the varieties selected and grown in Hawaii are not particularly adapted to Australian conditions. These varieties were reintroduced to Australia where they still dominate the older plantations. Australian varieties are common in all newer plantations, i.e. planted in the last 10 years.

New hybrids and selections are introduced as trials are conducted. Local and imported species are being evaluated for yield, kernel recovery, percentage of first grade kernels, and kernel size. These trials aim to select genetic material which is better suited to Australian environmental conditions. Some growers are grafting new varieties on to old rootstock, which halves the time out of production, i.e. normally new trees take around five years to bear, this method means that the reworked older trees take around two years to bear.

Another factor contributing to the lower yields in Australia, and in many other countries outside Hawaii, is the harsher environment. Australia has larger diurnal and seasonal variations in temperature compared with the mild, equitable climate of Hawaii. Australian trees are also subject to greater variations in moisture stress.

Consumption

General

Following the increase in supply and a subsequent decrease in the price of kernel in the 1990's the industry made a concerted effort to expand the domestic market. The industry undertook generic promotion including television advertising, advertisements in trade journals and magazines, promotion of macadamia usage in food service, and promotion of beneficial nutritional and health attributes of macadamia nuts. Local firms have targeted Australian bound Asian tourists as a lucrative market.

Nuts go from farms to processing factories for drying, cracking and subsequent value-adding treatment of the kernels. The vast majority of macadamias consumed domestically are in the form of kernels or in value-added products.

Increasing amounts of kernels are used in restaurants and the food service industry. The Australian Horticultural Corporation (AHC) has worked to increase macadamia usage in home and restaurant recipes.

Price

The AMS estimate that the average farm gate price on a per kilo basis fell by over 20 percent during 1997 reaching A\$2.40 for the 1998 crop. This reduction in price reflects the increase in supply and softness in demand in some markets.

Trade

Export Trade Matrix			
Country:	Australia	Units:	MT
Commodity:	Macadamia, Inshell Basis		
Time period:	Jul-Jun		
Exports for	1997		1998
U.S.	3378	U.S.	5031
Others		Others	
Japan	3191	Japan	2920
Hong Kong	3048	Hong Kong	2625
Belgium	1896	Belgium	2335
Germany	1193	China	1093
China	756	Germany	812
Republic of Korea	410	The Netherlands	698
Taiwan	347	Taiwan	457
The Netherlands	267	New Zealand	178
Singapore	154	Canada	176
Malaysia	119	Republic of Korea	140
Total for Others	11381		11434
Others not listed	382		494
Grand Total	15141		16959

General

The Australian Bureau of Statistics does not report separate macadamia import figures. Import figures are aggregated with other nuts.

Australian import tariffs for macadamia kernel and NIS are zero.

The Australian macadamia nut industry is highly export orientated, exporting over 60 percent of its production.

Exports consist of over 85 percent kernels and macadamia nut products. Exports of kernel are converted to a nut in shell equivalent by using a conversion factor of 29 percent.

ABS statistics indicate that macadamia exports during 1997-98 were 12 percent higher than during the previous year.

Historically the US has been Australia's single largest export market. During the 1990's increased global supply, and a subsequent decrease in the price paid on the US market, led to the industry concentrating on diversifying export markets and expanding the domestic market. The US is still the major single country market for exports, however the Asian market, which Japan and Hong Kong dominate, accounted for between 45-55 percent of total exports during the 1996-97 and 1997-98 years. Europe is a rapidly growing destination for exports with important markets in the 1996-97 and 1997-98 years including Belgium, Germany and the Netherlands.

Industry sources indicate that Asian economic problems are not expected to have a marked effect on export sales to Asia as the bulk of exports go to Hong Kong and Japan. It seems likely that exports to Europe will continue to increase modestly, and that exports to the U.S. will remain strong given the depreciation of the Australian dollar against the U.S. dollar.

Stocks

The large 1997 crop was estimated to have had a carryover of around 10 percent of the crop total. Stocks are mainly held by the large processing companies.

Policy

General

The US ITC conducted an investigation under section 332 (g) of the Tariff Act of 1930 into the competitive factors affecting the US macadamia industry during 1998. This included a study into competition from the Australian industry. The Australian industry appeared at hearings in Washington DC and Hawaii, and also provided written submissions to the ITC. The findings of the report indicate that falling world prices have resulted from a rapid increase in supply combined with softer demand from European and Asian customers. The decrease in Asian demand is reflected in decreased exports to some Asian markets and a decrease in Asian tourists to Hawaii.

The Australian macadamia industry recently commissioned a study into the export marketing structure of the macadamia industry. The aim of the study is to review the current structure, review other structures and recommend a structure that will be suitable to lead the industry in future market development. With the projected increase in Australian production the industry feels that it needs a structure to handle the increased demands that are associated with a larger crop.

Marketing

Industry Structure

The AHC was established to assist, facilitate, promote, and coordinate, the export of Australian horticultural products. They also work towards improving the efficiency and competitiveness of Australian horticultural industries, and the quality of horticultural products.

The AHC continues to assist the macadamia industry in developing quality assurance programs aimed at enhancing the quality and reputation of Australian macadamia nuts. The macadamia industry already includes firms that have attained ISO 9002 quality certification.

The AHC has developed advertising which has been included in international nut industry magazines such as "The Cracker" and "The Clipper" in recent years. The advertisements and articles reinforce both the quality attributes of Australian macadamia nuts and the quality base of the industry. This advertising also aims to raise the profile of the macadamia as Australia's indigenous nut.

The AHC and the macadamia industry are currently undertaking a major promotion in the German market including a public relations program and consumer magazine exposure. The industry is also working on a jointly funded campaign with German distributors to help increase retail sales. Austrade in Germany will assist with this project. The AHC has budgeted for promotions during 1998/99 that may include trade shows in the US, Japan and/or other markets that are judged to have future potential.

The AHC's domestic marketing program has endeavored to heighten consumer awareness of the macadamia nut while promoting the nut as a versatile culinary ingredient. This program has continued to focus on the food service industry and has included the distribution of media kits to targeted media outlets. The industry has also produced a training resource kit for students undertaking food service/preparation courses. The kit includes industry information, available product grades and recipe suggestions. The industry has continued to fund awards for students and young chefs. Public relations activity has also been undertaken. The industry also used celebrity chefs and lifestyle programs to effectively demonstrate the macadamia's versatility in a variety of recipes and innovative food uses.

The Horticultural Research and Development Corporation is responsible for horticultural research programs.

Efforts in developing markets outside the U.S. have been successful. The dumping case brought before the ITC by the U.S. industry prompted the industry to develop markets in Asia and Europe. The Australian industry exports to more than 35 countries.

The Government of Australia (GOA) does not provide subsidies for macadamia nut exports. The GOA provides dollar for dollar funding for research and development activity relating to the macadamia nut industry.

The macadamia industry introduced a statutory levy as at April 1, 1992. This levy is currently 7Ac/kg of NIS which comprises, 3.5Ac/kg to the AHC for marketing and promotion 3.3Ac/kg for research and development, and 0.2Ac/kg for residue testing. The industry receives dollar for dollar funding for scientific and cultural research from the Australian Federal Government. During the 1997-98 year A\$825,000 was raised for research (plus an A\$825,000 was provided in matching commonwealth funding), A\$50,000 for residue testing, and A\$875,000 for promotion.

There are around 12 commercial processors of macadamia nuts in Australia with most of the processing undertaken by six major companies. Five of these companies do their own marketing.

The two largest processing companies account for around 50 percent of kernel production.

The majority of kernel production is exported, mainly as bulk raw kernel.

