Submission to the Productivity Commission Inquiry into the Australian Government Research and Development Corporations Model

Australian Nut Industry Council
the federation of the Australian nut producing industries

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1. Key Points

- The Australian nut industry has achieved significant competitive advantages through innovation facilitated by investment through the R&D model.

- The voluntary contribution model through Horticulture Australia Limited has provided a key mechanism for minor horticultural crops to establish R&D capacity, and enhancing their ability to establish a statutory R&D levy.

- The voluntary contribution (VC) model has also enabled investment in R&D along the entire value chain, capturing nut growers, nut processors, wholesalers, importers and retailers. This broad involvement has ensured that activities are driven by market requirements, ultimately delivering benefits to consumers.

- The current structure of Horticulture Australia Limited as an industry owned R&D Corporation provides the necessary flexibility and collaborative arrangements required by horticulture, being such a diverse sector.

2. Introduction

2.1 The Australian Nut Industry Council

The Australian Nut Industry Council is the federation of the Australian nut producing 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 research and development and marketing.

All have participated individually and collaboratively in the current R&D funding mechanisms through well-supported grower levies or voluntary contribution schemes to support the research and development at levy contribution rates at or near the highest in agriculture.

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. The members of ANIC are:
Almond Board of Australia Inc.
Chestnuts Australia Inc
Hazelnut Growers of Australia Limited
Australian Macadamia Society Limited
Australian Pecan Growers Association Inc.
Pistachio Growers Association Inc.
Australian Walnut Industry Association

2.2 The Australian Nut Industry

The Australian tree nut industry is rapidly expanding. Current Australian nut production has a commercial value of about $350 million. Additional production from new tree nut orchards will generate an industry value of more than $1 billion within 8 years, leading to $1 billion in exports by 2020; an export performance which will exceed the total Australian horticulture exports for 2008.

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.

3. Benefits from Investment in R&D under the Model

3.1 Competitiveness and Productivity

The Australian tree nut industries Have achieved 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.

Tree nut industries require long-term development capital, technological skills and research to build on advantages. With the support of the current R&D funding model, 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. These long term investments would not have been made without a funding mechanism that provides some security of support over time.

Nuts are efficient users of water with a high dollar return for each megalitre of water used. Research and extension through the R&D model has allowed irrigation technology used to be 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.

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.

More information on specific benefits for each nut industry is provided in Attachment 1.

3.2 Public Benefits

Nuts for Life is a nutrition communications and education initiative established for the Australian tree nut industry to provide information about the nutrition and health benefits of tree nuts. Tree nuts include almonds, Brazil nuts, cashews, chestnuts, hazelnuts, macadamias, pecans, pine nuts, pistachios and walnuts

Nuts for Life aims to provide useful, accurate and up-to-date information on the nutritional importance of tree nuts in the diet. The website comprises recent reports, research, newsletters, fact sheets and nutrient composition tables. The nutrition team at Nuts for Life is committed to providing nutrition information that is based on sound science

Nuts for Life is facilitated by Horticulture Australia Limited in partnership with the Australian tree nut industry since May 2003. It is funded by voluntary contributions from the industry together with matched funding from the Australian Government.

The Nuts for Life program is part of the Australian Nut Industry investment in R&D. Using the current R&D Corporation model and specifically the voluntary contribution provisions through Horticulture Australia Limited, this program has made a significant contribution to public health.

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 being communicated to consumers, who are responding by increasing consumption. Over the past five 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.

This program has also allowed investment in R&D along the entire value chain with nut growers, nut processors, wholesalers, importers and retailers all contributing to a program the promotes health eating, improved public health and increased nut consumption.

Further information regarding the Nuts for Life program is provided in Attachment 2.

3.3 Environmental Benefits

There are other flow on public benefits from the Australian nut industry's investment in R&D. As a result of R&D through the current funding model 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 macadamia industry has used both its levy funds and voluntary contributions from the supply chain and the community to fund the development of a recovery and conservation plan for the threatened remaining wild macadamia populations. This plan has been recognised by the Australian Government. A collaborative funding proposal is now in development to implement the plan. This will involve growers, other landholders, indigenous communities, local government and state government agencies. Without access to the current funding mechanism it is likely that the approximately 1,000 remaining wild macadamias could be extinct within two decades.

4. Efficiency and Effectiveness of the Model

Australian nut industries have received significant benefit from the current model, being a major contributor to the investment by the industry in R&D and the subsequent improvement in productivity and competitiveness. This in turn has allowed the relatively small Australian nut industry to be a major export industry assisting Australia's balance of trade. The high level support of levy payers and voluntary contributors in the Australian nut industry is evidenced by the fact that they generally have high contribution rates, both levy and voluntary contribution, for R&D programs. This reflects the industry's belief that the way forward is with better farming practices and better technology in post harvest and supply chain management. The ongoing government support through Horticulture Australia Limited and the state departments is invaluable and an essential element in maintaining industry competitive advantage.

Australian nut industries have also used the mechanism of the R&D Corporations and HAL in particular to collaborate and cooperate in R&D planning and investment through ANIC. Examples of this include joint market access investment and activity, joint funding of the Nuts for Life program with its clear public health benefits and collaborative investigations such as the strategic agrochemical review process.

The VC funding model uniquely provides smaller industries such as ours the opportunity to take control and ownership of their research issues ensuring efficient delivery and rapid uptake of the outcomes. The VC model is critical in developing the capacity of minor horticultural crops such as pecans, walnuts, pistachios and other tree nuts, to establish cost effective and efficient R&D programs.

The VC model further allows investment in research and development that would not otherwise be made. Examples of this include the investment in the Nuts for Life program by commercial businesses and investment by macadamia processors in improved technology transfer, on-farm productivity and quality and reduced chemical use.

The VC funding model has been used with great success across industries such as chestnuts and macadamias to allow key industry leaders and stakeholders to attend international congresses and study tours which have been instrumental in developing Australia's productivity and competitiveness.

For industries using the voluntary contribution model each grower, each year decides that the industry research is producing benefit by signing the contribution cheque. For larger industries with hundreds of growers, a voluntary system would not be fair or practical, so the levy system has an important role to ensure that the would-be free riders do not obtain a free ride.

5. Recommendations

a. The current industry owned R&D Corporation be continued for horticulture as it allows the flexibility and collaborative arrangements required by such a diverse sector;
b. The current $ for $ matching be maintained for R&D activities. There is clear benefit through increased investment down the supply chain and from flow on public benefit;
c. The VC Model of funding, currently possible within the HAL system should continue to be supported as a key mechanism for minor horticultural crops to establish R&D capacity.

Attachment 1

Australian Nut Industry - productivity and competitiveness case studies

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

Macadamias
Australian macadamia growers have used current R&D investment mechanisms to capitalise on the advantage of working with the native gene pool. The resultant investment of over $5 million of industry and matching funds would not have been possible without a funding model that allows equitable investment across the entire grower base for commercial benefits that may not be realised for a number of decades. 20 elite varieties are close to final evaluation and just one could improve Australia's competitive advantage by around 20%. This would return around $20 million a year in improved yields.

Huskspot can reduce the Australian macadamia crop by 30%. This results in a loss of approximately $20 million. A research project funded through HAL, an investment of $245,000 and requiring grower investment of around $3 million nationally has developed control measure that reduce damage to 5%. A net return on investment of over $15 million
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According to a benefit cost analysis undertaken by Sinclair Knight Mertz, the macadamia R&D program, based on the case studies examined, has provided between $1.60 and $1.90 of benefit for every dollar invested in the program. Assuming that the R&D case studies examined in this analysis are representative of the magnitude of return from other R&D investments this indicates that the Australian macadamia industry may realise a net return of between $1.0 million and $1.4 million for the $1.6 million budgeted for expenditure in 2002/03.

Walnuts
Walnut blight can be a devastating bacterial disease each year in walnut orchards. Webster commenced its walnut operations in Tasmania where conditions for blight infection are quite favourable. Through a 6 year VC HAL research programme we were able to get on top of this problem. Had we not, expansion to the Riverina probably would not have occurred. We are now very confident of having a production of about 10,000 tonnes of walnuts within 5 to 6 years worth about $40 – 50M per annum to Australia.

Hazelnuts
On joining Hazelnut Growers of Australia Inc, members receive a copy of the Hazelnut Growers Handbook. The manual was not only out of print but had not been updated since December 2001. The old version did not reflect technological advances, nor the range of improved hazelnut varieties. A VC contribution by HGA was matched by HAL, and the handbook was revised and re-written by Lester Snare, NSW Department of Primary Industries. HGA can now offer members up-to-date information on hazelnut growing, marketing and processing. The total sum of $6,000 was sufficient to distribute digital versions of the manual to members and print hard copies for sale to non member growers and general public. This not only increases the financial resources available to fund other activities, but will encourage membership, growth and support for the industry.

Hazelnut growing is attractive to many small farm investors as a source of retirement income. Organisers of the Annual Conference are challenged by setting registration fees at affordable levels vs the costs of obtaining high quality speakers. A VC contribution by HAL supported the 2009 Hazelnut Growers Annual Conference in Albury, NSW, facilitating

attendance by keynote speakers Prof David McNeil, and Murray Redpath, President of NZ Hazelnut Growers Association, who made presentations on development of the NZ hazelnut industry.

Chestnuts

The co investment of Federal Government funding was critical in the establishment of the Australian chestnut industry. During the 1970's and 80's the emerging chestnut industry was highly fragmented with an estimated 300 to 400 mainly small growers and a poorly supported voluntary levy system with little effective R&D being undertaken. One of the most highly beneficial outcomes was the appointment of a part time Industry Development Officer. The position was jointly funded by DPI Victoria and matched industry levies and was instrumental in establishing a well supported R&D program that greatly assisted growers and unified the emerging chestnut industry.

Fundamentally important projects such as varietal evaluation, post harvest handling, quality protocols and standardised packaging were all funded under the program and outcomes were widely communicated and adopted by industry. In 1999 the "Australian Chestnut Growers Resource Manual" was developed based largely on funded research outcomes.

Pistachios

Without the Australian government matching the voluntary contributions of growers for R&D, the pistachio industry would not have survived the difficult early years. As a result of the research, the industry is now about to expand providing another profitable crop for growers along the Murray River.

Some of the critical research conducted and successfully implemented by growers in the last decade includes:

- The identification and management of a devastating disease, *Xanthomonas translucens,* pv *pistacia*
- The improvement of yields to world's best levels
- The increase in nut size to improve consumer acceptance
- The measurement of the chill requirement of the Australian pistachio variety, and the development of techniques to maintain yields in years of low chill – a critical development if global warming continues.

It is essential to the ongoing development of the pistachio industry that the current R&D model continues.

Almonds

With fertiliser costs on the rise and water increasingly scarce in Australian almond growing regions, the almond industry through Horticulture Australia Limited, has invested significantly in a major long-term R&D project to both identify ways to increase orchard productivity and reduce input costs through efficiency of application.

Findings and uptake from this key project has seen significantly increased yields, reduced input costs and environmental benefit across the industry.

The most recent results from this almond optimisation trial have seen development an uptake of production practices that are producing world record almond crops.

This levy and voluntary contribution funded project identifies and defines the optimal levels and balances between the major management inputs – nutrition, irrigation and canopy management – required by trees at each physiological stage of the annual crop cycle.

When comparing existing practices against trial practices, production gains of between 50 per cent and 90 per cent (cultivar dependant) are achievable given similar or lower quantities of water.

These production gains have helped Australian growers maintain competitive advantage and to establish a substantial export focussed industry, soon to become the world's second largest almond producing country.

Technology transfer has been intensively delivered to growers through field days, regular reporting and establishment of commercial demonstration sites in regional growing areas.

Attachment 2

Nuts for Life – an industry and government partnership case study

Nuts for Life is a health education program initiated by the Australian Nut Industry Council in 2003. It is voluntarily funded by 28 members of the Australian Tree Nut* Industry including not only Australian tree nut growers but many members of the nut supply chain including the processors, packers and importers of nuts in Australia. These natural competitors have co-operatively funded Nuts for Life to the value of around $220,000 each year. Australian Government matched funds for research and development activities are also received through Horticulture Australia Limited (HAL). Without this government funding Nuts for Life would struggle to educate our key audiences about the health benefits that regular nut consumption provides.

Contributors to Nuts for Life are:
Almond Board of Australia
Australian Macadamia Society
Australian Pecan Growers Association
Australian Pioneer Pistachio Co
Australian Walnut Industry Association
Carroll Partners
Charlesworth Nuts
Chestnuts Australia
Commodity Imports Australia
FTA Food Solutions
GB-Commtrade Pty Ltd
Hazelnut Growers of Australia
JC's Quality Foods
Langdon Ingredients
MWT Foods
Nocelle Foods
NSM Wholesalers
Nut Producers Australia
The Nut Shop
The Nut Stand Co
Rath & Co Trading
Royal Nut Company
Scalzo Food Industries
Select Harvests
Stahmann Farms Inc
Sunbeam Foods
Traditional Fine Foods
Trumps
Trutaste

Nuts for Life's main goal is to educate food regulators, health professionals and indirectly consumers and the media on the vital health benefits that regular nut consumption can provide. Approximately 50% of Australians aged 25 years and over have high blood cholesterol (A), over 900,000 Australians aged 25 years and over have Type 2 diabetes (B) and 1.4 million Australians have disabilities related to cardiovascular disease (C). The simple consumption of a handful of nuts (30g) most days a week as part of a healthy lifestyle can assist in the prevention and management of these chronic health conditions.

Risk of coronary heart disease and Type 2 diabetes can be reduced by 30-50% (D-G) and 30% (H) respectively just by eating a 30g serve of nuts at least five times a week. Total blood cholesterol can be reduced by 5%, LDL cholesterol by 7% and triglycerides by 10% with two handfuls of nuts (I) and eating nuts as part of a kilojoule controlled diet can assist with managing overweight and obesity due to their affects on appetite control, satiety and metabolism. (J-L).

The Australian Government National Health and Medical Research Council in their *A new food guidance system for Australia – Foundation and Total diets - draft report for public consultation in May 2010* highlighted the importance of eating nuts by modelling a 30g serve as a separate food group for regular consumption. (M)

Nuts for Life has a good working relationship with many government departments including Food Standards Australia New Zealand by providing 10 submissions on a number of issues including health claims, front of pack labelling, food labelling policy and food allergy since 2003. We also participated in the House of Representatives Obesity Review, Preventative Health Taskforce and the NHMRCs core foods and dietary guidelines review processes.

The program educates health professionals through a series of mechanisms including conference sponsorships, trade exhibitions, workshops and direct mail of many educational resources. Since 2003 Nut for Life has participated in 60 conferences and seminars reaching nearly 40,000 health professionals and some 150,000 resources have been distributed. The Nuts for Life website www.nutsforlife.com.au houses all our materials for all of the key audiences and Nuts for Life has just started utilising Twitter to educate busy health professionals.

Nuts for Life is evaluated by several means to ensure it remains viable and worthy of government funding. Nuts for Life monitors consumer and health professional opinion through market research biannually, as well as annual wholesale sales statistics, website statistics and number and quality of media articles – all as measures of success. Since 2003 General Practitioners who think nuts play a role in a healthy daily diet has risen from 12% to 67% in 2010, dieticians from 58% to 86% and fitness leaders from 20% to 69%. GPs that understand the positive role of nuts in heart health has risen from 63% to 91%, diabetes from 45% to 73% and weight from 18% to 59%.

Without a dedicated consumer campaign only 30 to 40% of Australians eat nuts daily or weekly but the perception that tree nuts are unhealthy has dropped from 23% to 14%. (N,O) Approximately 87,000 unique visitors have viewed the Nuts for Life website with around 3.7million hits. Plus 775 media articles highlighting key messages of eating a 30g handful daily and the important heart health and weight benefits have generated approximately 130million impressions (based on circulation figures). In the 6 years that Nuts for Life has been operational there has been a 34% increase in volume of nuts sold and the total market has increased by around $70 million.(P) External evaluators appointed by Horticulture Australia to review the program every three years found in 2008 that Nuts for Life is adding real value to stakeholder investment.(Q)

With Horticulture Australia providing financial administration for Nuts for Life in the form of collecting voluntary contributions, the Australian Tree Nut Industry also contributes to the across industry funding pool. This funding source provides funding for a number of projects including the highly successful Go for 2 and 5 fruit and vegetables consumption campaign. This kind of cooperation across horticultural industries is an example of the value of Horticulture Australia in bringing together all members of the horticultural supply chain.

Nuts for Life is a valuable program that requires continued funding to ensure that health professionals remain well educated on the health benefits of nuts. New nut health research

in the areas of brain and bone health and cancer are intriguing. If the number of Australians consuming a handful of nuts each day increases, the associated health benefits of regular nut consumption will flow on impacting public health.

*Tree nuts include: almonds, Brazil nuts, cashews, chestnuts, hazelnuts, macadamias, pecans, pine nuts, pistachios and walnuts.

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