Horticulture Commercialisation Casebook

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FINAL REPORT

COMMERCIALISATION CASEBOOK

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Foreword

One of the most common questions put to me as HAL's Intellectual Property and Commercialisation Manager is 'How have other industries gone about commercialising new varieties in the past?'

Coming from a patent driven biotechnology background, I found this a difficult question to answer. And so the Horticulture Commercialisation Casebook was conceived.

In the Casebook, we have attempted to document a range of commercialisation models and lessons from a diverse set of horticulture products, with the intention of better informing debates and decisions on how to commercialise new varieties emerging from horticultural breeding programs.

Thanks are due to Shane Comiski and Rob Doolan of CDI Pinnacle for their excellent work in compiling this report, to Gerard McEvilly for his assistance in scoping and developing the project, and to the HAL Industry Management Committee for their financial support of this project as part of the HAL Across Industry program.

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Introduction

Background

The Horticulture Industry in Australia currently has 23 active plant breeding programs, as well as an ongoing involvement in evaluation of new varieties imported from overseas breeders. These breeding and evaluation programs are funded by growers and the Commonwealth Government through HAL. Each breeding program aims to develop new plant varieties which will deliver on consumer or grower requirements (e.g. better tasting fruit, disease resistant varieties), while evaluation programs assess the suitability of overseas developed varieties or local selections for use in Australia.

Every new variety that is developed requires commercialisation in order to make the new variety available to growers (from licensing of a seed company or nursery through to the development of an integrated production and supply system with marketing, trade mark branding and promotion). At least seven of the HAL supported breeding programs are likely to commence release and commercialisation of new varieties within the next year, with several other breeding programs expected to commence release of new varieties over the next few years.

All Horticultural industries will benefit from a comprehensive understanding of the commercialisation options available to them, including the rationale(s) for choosing any given commercialisation path, and the benefits and hazards of each commercialisation model. This project will fill a significant knowledge gap for all the Australian Horticulture industries, and promote the selection of the best practice commercialisation models for Australian Horticulture. The Commercialisation Casebook developed through this project will support the analysis of commercialisation options and the selection of the most suitable commercialisation model for each new variety release.

Case Studies

Calypso™ Mangoes

INTRODUCTION

A hybrid mango developed by Childers growers John and Jay Dorrian and the Queensland Department of Primary Industries and Fisheries (QDPI) is set to grow the fresh mango category domestically and open new export markets. The B74 mango which is marketed as the trade marked Calypso™ mango is being commercialised by Brisbane-based The Harvest Company who have implemented a closed-loop marketing system. Commercial licensed growers of the B74 as well as Timbercorp-managed properties will exclusively supply OneHarvest in a managed supply program that seeks to grow the Calypso™ brand internationally and maximise its economic potential and returns for growers on a sustainable basis.

BACKGROUND

The impetus for the development of the B74 mango variety can be traced back to the late 1980's. Childers growers John and Jay Dorrian of Promised Land Avocados Pty Ltd had identified bacterial black spot disease in their mango orchard. The Dorrian's engaged the services of Dr Anthony Whiley from the Horticultural Institute of the QDPIF who suggested a range of measures to address the black spot, including research into a disease resistant variety.

Cognisant of the need to not only address the disease afflicting the mango, Dr Whiley and the Dorrian's set about developing a variety to meet consumer and retailer demand for a more consistent quality mango with improved shelf life to that offered by other mangoes. A twenty-year research and development program between the two parties produced the B74 mango variety, a hybrid between the Kensington Pride (Bowen) and a Florida red blush variety, Sensation.

The B74 variety, whose commercially trade marked brand name is the Calypso™, retains the characteristic taste profile of the Kensington Pride with significant new characteristics that include:

- Increased shelf-life, firmer fruit
- Extra blush for cosmetic appeal
- A higher flesh to seed ratio
- Firm, fibreless flesh
- Early yielding fruit - B74 mango trees yield a year earlier KP
- Consistently higher grade 1 yields in comparison to existing mango varieties
- Higher percentage of 'retail' sized fruit .

Importantly, the B74 has been developed to endure the rigours of the supply chain while setting new standards in retail presentation[1]. The unique selling characteristics of the fruit similarly make it well suited to export markets where Australia enjoys counter-seasonal advantages.

The B74, which was first sold in Australia in February 1998, is currently being grown in Western Australia, the Northern Territory, Queensland and New South Wales, with harvest occurring from October through until March.

AUSTRALIAN MANGO INDUSTRY

Mangoes are grown commercially throughout northern Australia. In 2002/03, annual production was around 60,000 metric tonnes (including export and processing fruit). Of this volume, 7 million trays (7kg/tray) went to the fresh market, and the remainder to export and processing. The estimated value of mango production in Australia in 2002/03 was $100 million.

Production regions include Gin Gin, Carnarvon and Kununurra in Western Australia; Darwin and Katherine in the Northern Territory; Mareeba/Dimbulah, the Burdekin, Bowen, Rockhampton/Yeppoon, Bundaberg, Gympie and the Lockyer Valley in Queensland; and northern New South Wales.

Kensington Pride, the highest volume variety of mangoes grown in Australia are to an extent biennial bearers of fruit, although the production trend for the Australian industry is estimated to be increasing at approximately 8 per cent per year[2].

The industry view is varied in terms of the profitability of the industry and whether or not the domestic market has reached a point of saturation. Anecdotal evidence suggests this is promulgated by the varying skills and expertise of farmers as farmers and business managers, the region in which the mangoes are produced and the size of the crop in any single year and the period over which it is delivered to market. It would appear that, in some instances, returns to growers are such that some fruit in some regions is not harvested each year.

Australia in terms of the world industry is a very small player. Australia's production of 50,000 tonnes does not rank it in the top 15 of world producers where the smallest is estimated at 198,000 tonnes. The world industry is dominated by India, accounting for over 50 per cent of world production. Details of the top 15 mango producing countries worldwide is presented below.

Table 1: Top 15 Mango Producing Countries (Tonnes)

Ranking	Country	Production (metric tonnes)
1	India	11,400,000*
2	China	3,130,000†
3	Thailand	1,750,000
4	Mexico	1,523,160
5	Pakistan	1,036,000
6	Indonesia	891,566
7	Philippines	880,000*
8	Nigeria	730,000*
9	Brazil	542,000*

[1] Timbercorp. 2006. The Calypso Mango. www.timbercorp.com.au
[2] AMIA website, http://www.mangoes.net.au/general/industry_profile. Visited 12th September, 2006.

Ranking	Country	Production (metric tonnes)
10	Egypt	326,063*
11	Haiti	260,000*
12	Madagascar	210,000*
13	Vietnam	209,400
14	Cuba	207,770
15	Democratic Republic of the Congo	198,226
	Australia	**60,000**

**FOA estimate; †Unofficial figure*
Source: AMIA website, http://www.mangoes.net.au. Visited 12th September, 2006).

Australia's main variety, the Kensington Pride, is currently not produced in any commercial quantity anywhere else in the world, and so Australia is not internationally regarded as an exporter of mangoes, apart from traditional markets in Hong Kong, Singapore and Japan, with some very limited penetration of the European market principally into France.

A recently completed study[3] highlighted that Australian mangoes face challenges in developing a presence as an international export player due to:

- Cost competitiveness. Australian mangoes generally do not compete well on price with the major exporting countries.
- Quarantine. Australian mangoes have a comparatively limited number of markets available to it due to quarantine restrictions because of mango seed weevil and more importantly fruit fly.
- Supply Volumes. Australia has a comparatively limited volume of mangoes to offer the market.
- Supply Chain Competitiveness & Commitment. Australia's ability to deliver products to market in an efficient manner and be committed to the development of new markets.
- Inadequate Resourcing. Due to the nature of the supply chain, i.e. long with many players, there are inadequate resources being made available to develop new markets for Australian mangoes.

INTELLECTUAL PROPERTY

At the outset of the breeding program, the QDPIF and the Dorrian's entered into an agreement whereby they essentially became 50:50 partners in any intellectual property generated from the research. For its part, the Dorrian's provided land and inputs for breeding trials, whilst the QDPIF contributed in-kind support for the consulting services of Dr Whiley as well as technical studies and lab reports related to varietal development. No other industry financial or technical assistance was provided to the breeding trial program. Therefore in effect the IP generated as a result of this research is held as an equal partnership between private and public (state government) interests.

The *magnifera indica* B74 variety PBR application was accepted on 30 January 1998. The named applicants and breeders are The State of Queensland through its Department of Primary Industries, and Promised Land Avocados Pty Ltd. PBR was granted to the parties on 20 May 2002.

[3] CDI Pinnacle Management. 2005. The Potential of Australian Tropical Fruits in Important Export Markets. A report for the Australian Tropical Fruit Industry Partnership. Brisbane.

Early consumer trials of the Calypso™ were from fruit harvested primarily from the Childers and Bundaberg areas as well as trial crops from far north Queensland and the Northern Territory. In 2002, a public competition was conducted by the QDPIF to identify an appropriate commercial name for the B74, resulting in the branding of the B74 variety as the Calypso™. The Calypso™ word trade mark application was officially lodged with IP Australia in May 2002 and registered in March 2003 under Class 31.

Efforts are currently in progress to register the Calypso™ trade mark internationally with a patent application pending on the B74 variety in the United States.

No challenges have been made to date internationally to the PBR, trade mark or pending patents.

Annual audits are undertaken of commercial growers of the variety to ensure compliance with grower agreements and intellectual property.

Presently, The Harvest Company are forever auditing the potential of 'poaching' the variety, either by growers illegally accessing plant or selling product outside of the network. This is quite easily conducted due to the fact that the variety visually is very unique and through their in-market presence they will become quickly aware if product is moving outside their marketing system. Further, on the ground 'intelligence' in the production areas will highlight any significant plantation development.

THIRD LINE FORCING

As Calypso™ mangoes are being commercialised under a 'closed loop' marketing system, the QDPIF has had to take out a third line forcing notification with the Australian Competition and Consumer Commission (ACCC). Third line forcing occurs when a supplier places a condition on the supply of its goods or services that the customer must acquire goods or services of a particular type from a third person nominated by the supplier. This practice is a form of exclusive dealing that is prohibited outright by section 47 of the Trade Practices Act.[4]

In January 2001, the QDPIF lodged a notification (#N90848) to the ACCC in relation to a proposal to provide plant material to growers on condition they sell fruit or vegetables grown from the plant material to a specified third party (The Harvest Company in this case). Registering a notification with the ACCC describing this supply arrangement has allowed for statutory exemption from prosecution. While the ACCC may remove the immunity at any time, it must provide notice to the parties and have a pre-decision conference before removing that immunity.

COMMERCIALISATION

EXCLUSIVE COMMERCIALISATION PARTNER

OneHarvest, a privately owned company, is responsible for the commercialisation of the B74 variety having successfully tendered for the exclusive commercial rights for the variety in November 1999. OneHarvest, based in Brisbane, is the umbrella company made up of a group of innovative fresh food businesses known as Harvest FreshCuts, Vegco, The Harvest Company and Oolloo Farm Management. For three decades, OneHarvest companies have been pioneering new varieties and value-added fresh produce in Australia and international markets. The OneHarvest team were responsible for introducing the seedless watermelon, Shepard avocados and convenient fresh cut salads and stir-fries to Australian consumers.

[4] Commonwealth of Australia. 1998. Guide to authorisation and notification for third line forcing conduct. Canberra.

The Harvest Company as a long-term partner in Australian Fresh Mango (AFM) in the 90's saw a need to move away from this marketing group for a number of reasons including:

- Inconsistent quality and performance of the product (Kensington Pride).
- Too many growers with a wide variation in philosophies and understanding of the group marketing concept.
- Too many small growers making the achievement of economies of scale and efficiencies difficult to achieve.
- Lack of shared vision between The Harvest Company and growers.
- Lack of grower commitment.

The impact of these factors led The Harvest Company, through a prior relationship with Dorrian's, to explore commercialisation of B74 as it offered the opportunity to:

- Market a variety with more consistent performance and in their opinion eating characteristics that consumers preferred.
- Have a greater control of roll-out of the variety.
- Ability to 'hand select' growers who have the production capability and most importantly commitment and vision to be a 'partner' with The Harvest Company.
- Be able to pioneer the development of a unique variety from the start and so better guide its penetration into the market place.

The Harvest Company exclusively markets Calypso™ mangoes throughout Australia and overseas, managing all aspects of the supply chain from production through to retail and consumer marketing. They are also responsible for protecting intellectual property relating to the PBR and trade marks internationally as "Master Licensees" of the intellectual property.

Under the exclusive arrangement with The Harvest Company, the licensors – QDPIF and the Dorrian's – are paid a transaction royalty expressed as a percentage of the wholesale price of all Calypso™ sales made by The Harvest Company to its customers, both domestically and in export markets. There are no fees attached to the licensing agreement with The Harvest Company and no revenue derived by the owners of the intellectual property for tree or budwood sales.

PRODUCTION

Part of the exclusive arrangement with The Harvest Company gives them the right to sublicense the right to propagate and grow the B74 variety to individual nurseries and commercial growers. Initially there were 33 growers across climatic zones in Australia with sublicences from The Harvest Company to produce the B74. This ensures consistency of quality and supply from October to March.

The Harvest Company gives its commercial grower partners access to grafted budwood for the purposes of orchard establishment from a variety of sources including licensed nurseries. Grower agreements are in place between The Harvest Company and each commercial grower which outline the terms of the access to the variety, scope of plantings, requirements for harvesting and packing to The Harvest Company's quality standards and packaging and branding requirements for the fruit.

Figure 1: Commercialisation Timeline for Calypso™ Mangoes

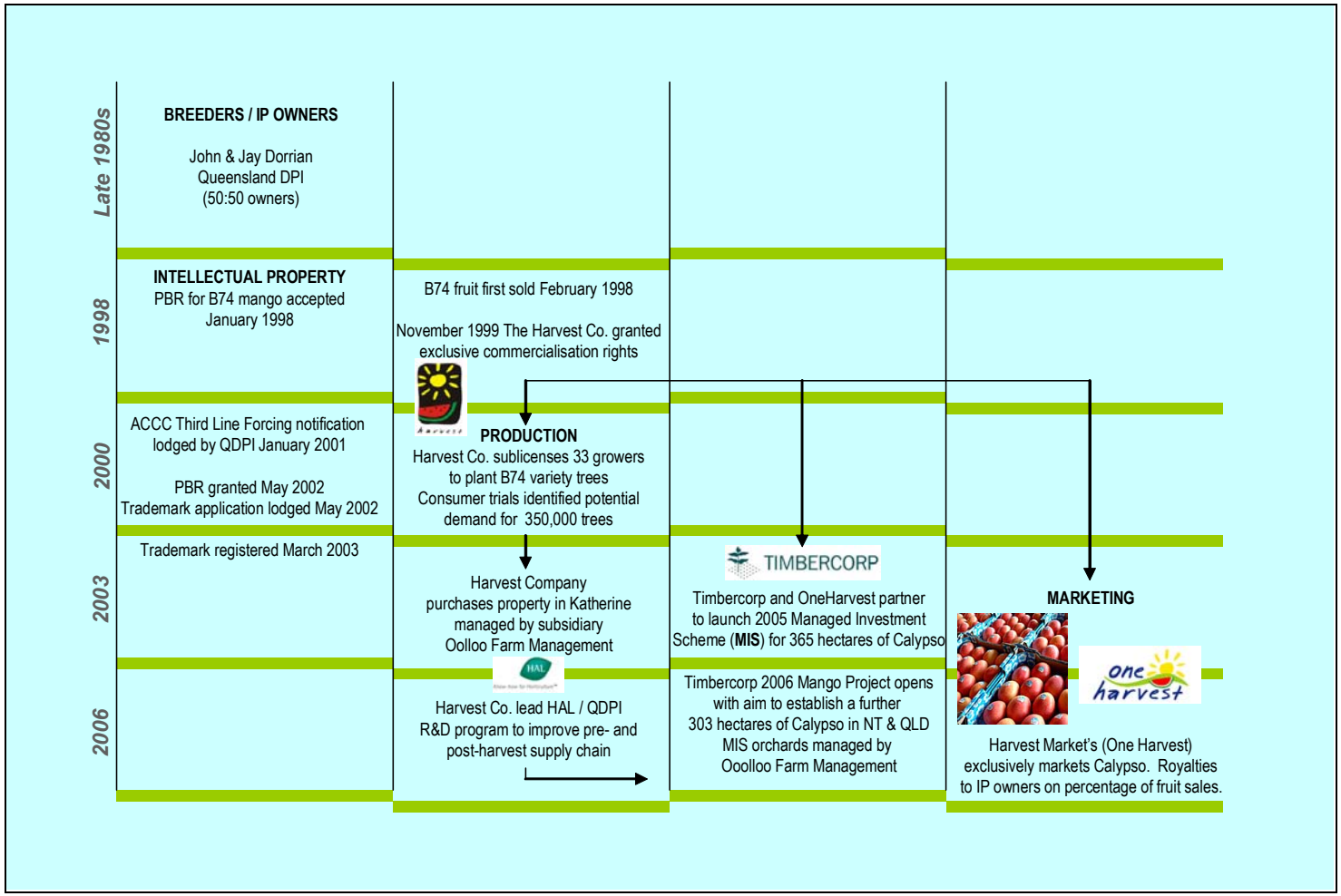
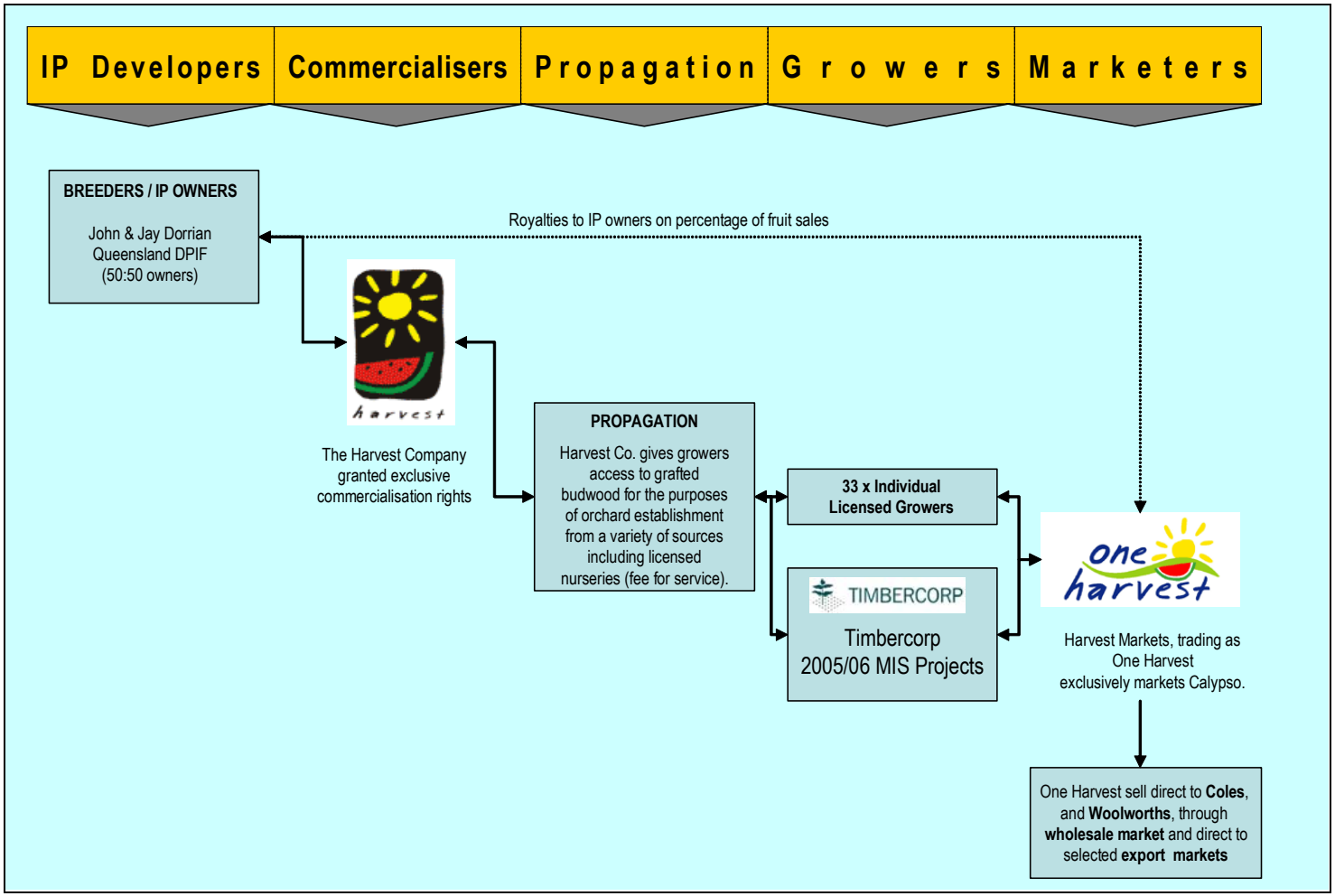


Figure 2: Calypso™ Mangoes Commercialisation Supply Chain



Following the granting of commercialisation rights to The Harvest Company in 1999, the company approached the mango industry and over a three-year period established plantings of around 60,000 trees in selected locations. At that point, The Harvest Company identified that the market potential for the variety required them to have about 350,000 trees in the ground for the domestic market spread evenly across regions. The company took the proposal to early adopters of the variety to undertake more plantings, resulting in commitments for approximately 100,000 trees to be planted in total. With a significant shortfall in planned plantings for the variety, The Harvest Company decided that they had no option other than to plant trees themselves.

MANAGED INVESTMENT SCHEME

In 2003, The Harvest Company purchased a property in Katherine to plant 25,000 trees in order to fill in part of the future supply gaps left by existing commercial operators. The Harvest Company subsidiary Oolloo Farm Management was established to oversee the development and management of the Katherine property. Around this time, Timbercorp expressed an interest in working with The Harvest Company to establish Australia's largest fresh B74 mango growing operation as part of a Managed Investment Scheme (MIS) registered under the Corporations Act.

A 2005 mango project with The Harvest Company saw Timbercorp plan to develop a series of large-scale mango orchards, totalling 365 hectares of the B74 variety between Dimbulah in Queensland and the Territory regions of Mataranka and Katherine. A follow-up 2006 Timbercorp MIS totalling 303 hectares of B74 variety plantings aims to fill out the market requirement for 350,000 trees as identified by The Harvest Company.

Timbercorp Securities, a wholly-owned subsidiary of Timbercorp Limited, is the Responsible Entity and insurer coordinating the Calypso™ mango project which is aimed at producing mangoes for commercial gain through sale in both domestic and export markets. The Project is to be conducted on approximately 303 hectares, on three separate orchards located on properties in the Northern Territory (Mataranka Orchard and Katherine Orchard) and Far North Queensland (Dimbulah Orchard).

Timbercorp is responsible for all aspects of the Project throughout its Term. Timbercorp has engaged Mangocorp Management, a subsidiary of its parent as the Project Manager who will in turn engage Oolloo Farm Management to perform various tasks in relation to the project. Oolloo Farm Management is responsible for overall farm management, including farm development, farm management as well as the picking and packing of mangoes.

Investors in the MIS have the opportunity to enter into Grower Agreements as owners of "Mangolots". Mangolots are separate identifiable areas of 0.25 hectares. The Mangolots will be stapled lots. After allowing for capital works development, the Project Orchard is expected to comprise approximately 1,213 Mangolots (totalling 303 hectares). The Project Land is owned by Mango Land, a subsidiary of Timbercorp Limited.

As "mango growers", investors enter into the following agreements with Timbercorp Securities:

- Licence Agreements – which grants investors the right to use their Mangolots for the Project Term (20 years);
- a Mangolot Management Agreement – under which investors engage Timbercorp Securities to cultivate and manage the mango trees, as well as harvest, sort, pack and ripen the investors mangoes; and
- a Grower PBR Sub-Licence and Marketing Deed – under which the investor engages Mangocorp Management, the Project Manager, to market and sell mangoes through The Harvest Company (OneHarvest), who holds exclusive rights to the B74.

To participate as a Grower in the Timbercorp project, investors must pay certain fees and costs to Timbercorp in respect of each Mangolot. These include:

- Application moneys
- Licence fees
- Management fees
- Operating costs
- Royalty fees and other marketing and sales costs
- PBR and marketing fees
- Incentive fees.

Prior to the distribution of proceeds of mango sales to Mangocorp Management , The Harvest Company will deduct marketing and sales costs including its sales commission, promotional expenses, freight and handling costs, as well as royalty fees payable to the QDPIF and Dorrian's as the registered owners of the PBR. Investors ('Growers') within the MIS will then receive net proceeds from mango sales on a pro rata basis, i.e. a share calculated by reference to the proportion that the total number of the investor's Mangolots bears to the total of all issued Mangolots.

Applications for the project offer were due to close on 15 June 2006 for "Early Growers" and 15 June 2007 for "Post 30 June Growers", unless Timbercorp's directors determined to close the Offer Period earlier.

COMMUNICATIONS AND R&D

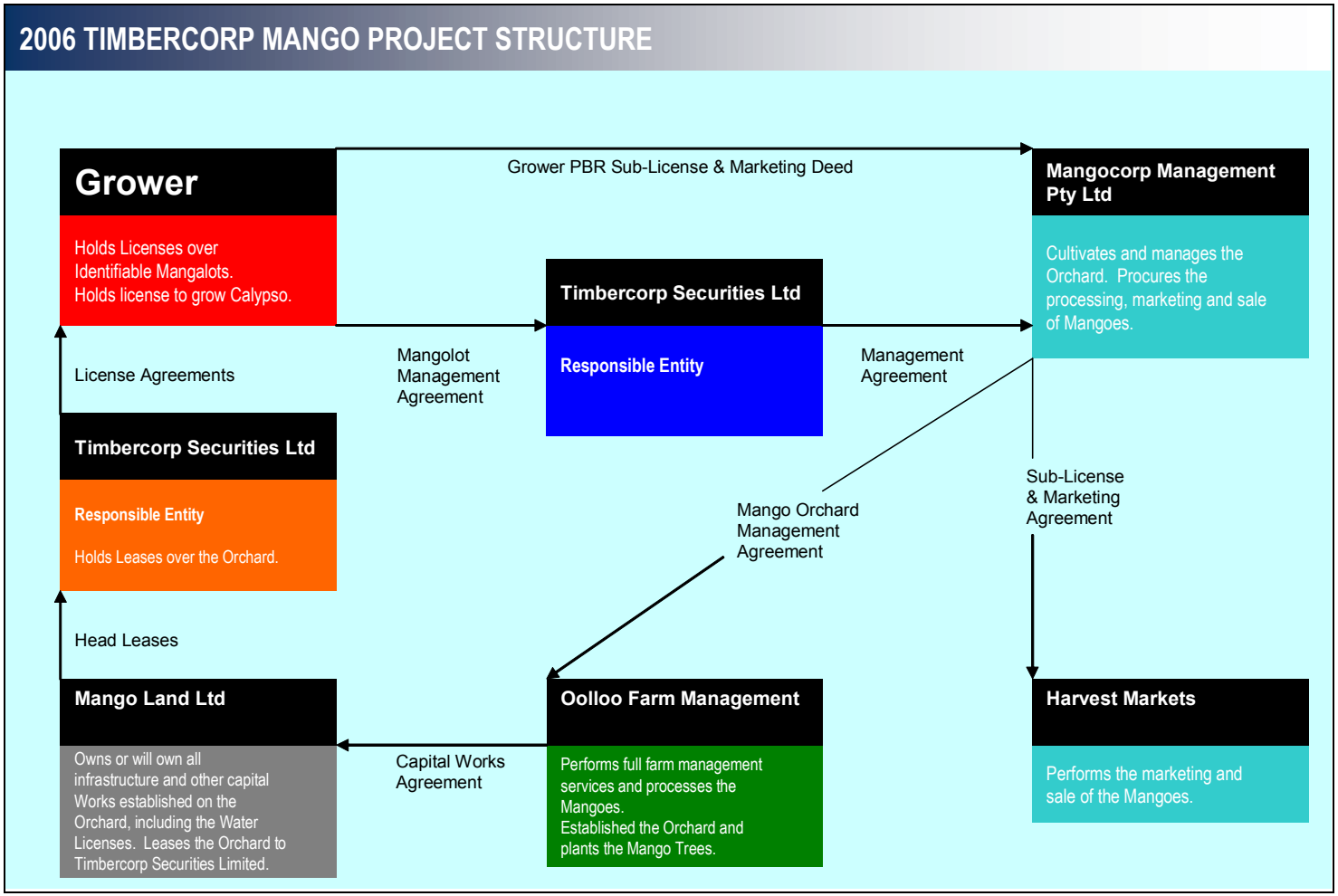
The Harvest Company works closely with its commercial growers of B74 to maximise supply chain performance, employing a comprehensive communication plan to achieve this. The Harvest Company representatives meet with commercial growers pre- and post-season, discussing grower requirements and project performance. Regular newsletters covering a range of topics are distributed to growers across the season and complemented by weekly teleconferences between the parties.

The Harvest Company hold regular meetings with the IP owners. One formal meeting is held annually to review the licence agreement and progress against key performance indicators, whilst another formal annual meeting are held to discuss R&D issues. This is in addition to a number of informal meetings and discussions which take place between the parties at any time.

The Harvest Company has proactively committed to technical improvement of the project through voluntary contributions. The Harvest Company lead a three-year R&D project jointly funded by Horticulture Australia Ltd, including Dr Whiley (as a private consultant), the QDPIF and key growers which commenced in 2002. The project had been undertaken to examine agronomic and post-harvest activities with a view to developing a best-practice symbol system for production and post harvest control. OneHarvest remains committed to improving the pre- and post-harvest supply chain including product quality and shelf-life. They are also investing in areas such as quarantine treatments for export market access (Japan and China) as well as research into improved storage techniques for the fruit.

According to a QDPIF spokesman, one of the reasons for the success of the B74 variety to date and why The Harvest Company has been able to attract the capital investment from Timbercorp is the ongoing research and development program underpinning the variety. This is being particularly supported through the development by One Harvest of its own farms which are being managed by its owned wholly owned subsidiary Oolloo Farm Management.

Figure 3: Calypso™ Mangoes – Managed Investment Scheme Structure



MANGO SALES AND MARKETING

Calypso™ mangoes are / will be supplied to The Harvest Company by two networks:

1. Licensed growers (currently 20 growers)
2. Investor growers as a result of the Timbercorp Management Investment Scheme project.

The B74 mango is being commercialised under a 'closed-loop' marketing system. Marketing and sales of all Calypso™ mangos are conducted through The Harvest Company as the exclusive marketer.

All growers through commitments made in their Growers Agreements with The Harvest Company, must supply all produce through it. Growers are advised by The Harvest Company upon packing of fruit which of the major metropolitan markets to send their product to. In each of these markets, a ripener conditioner has been appointed to condition the fruit to the ripeness standard that is required by customers. The Harvest Company then organises transport to the customer.

Historically, the vast majority of Calypso™ mangoes are sold to either Coles or Woolworths, with only very small quantities being sold through an approved panel of wholesale marketers. The Harvest Company considers that the ability to reach independent retailers of high quality produce to be the next major development step to be followed in conjunction with ongoing development of the chain retailer sector.

All fruit produced by licensed growers must be harvested and packed only to The Harvest Company's specification. Under its agreement with the IP owners, The Harvest Company will endeavour to commercially exploit the B74 in a manner that maximises its economic potential and returns for growers on a sustainable basis, make the B74 a leading variety in the seasonal fruit market and deliver economies of scale on a continued basis.

Major customers include the leading retail chains in Australia with product to also be sold through the wholesale markets in the major east coast cities, and selected export Asian markets including the United Kingdom. Processing grade B74 fruit will also be sold for further value adding.

The initial and current target market focus is through chain store retailers. The Harvest Company have an extensive track record in working cooperatively with both chain store operators to introduce new products to consumers through these chains. They have leveraged on this relationship base with Calypso™, at least initially as it presents the opportunity to reach the greatest population of consumers. Further, in developing a new product, it is considerably easier according to The Harvest Company to pioneer a new product with a limited number of retailers rather than trying to work with a large number of smaller retailers.

The Harvest Company, through its promotional levy, is focussing on developing the mango category with the introduction of Calypso™ to new consumers, building brand awareness through the use of in store demonstrations, point of sale material and promotion at selected outdoor and media events. The entire focus of The Harvest Company's approach is to 'get the product into consumers' mouths', because they believe that if they can achieve this the quality of the product will make repeat purchases a 'formality'.

As the minor variety currently in terms of production, the pricing of Calypso™ tracks that of Kensington Pride with the addition of a premium. The margin that is sought is lower when greater quantities of Calypso™ product is available. Currently, due to the limited volumes available, there has not been the need to go 'on ad' for the variety.

According to Timbercorp, one of the objectives of The Harvest Company as the exclusive marketer of the Calypso™ is to implement a programmed marketing campaign with retailers. Harvest will coordinate the supply of

mangoes with prevailing demand, and seek to stabilise prices throughout the season. There is an expectation that provided the Calypso™ continues to be well accepted by consumers, given its features and controlled marketing, it will sell at a premium to Kensington Pride, R2E2 and other existing mango varieties[5].

The Harvest Company does not guarantee the sale price of the mangoes produced by the project. It does however offer a transparent marketing system whereby growers do have the ability to access sales records from The Harvest Company. Growers are paid a net price per tray, which includes deductions for:

- Marketing commission (11 per cent of the gross wholesale price) which is paid to The Harvest Company
- Production royalty (paid to the plant breeders with some retention by The Harvest Company)(based on gross wholesale price)
- Promotional levy (3 per cent of the gross wholesale price)
- Standard industry levies
- Discounts and rebates payable to chain store retailers
- Freight (from ripener to customer)
- Ripener costs.

All grower returns are pooled on a weekly basis across grades and within a region.

There is no publicly available performance data that is available to assess the performance of this variety. That said, The Harvest Company have now capped the total number of trees that will be planted in coming years and new growers who wish to be part of the Calypso™ network are being turned away. Approximately, 13 of the original growers have left the Calypso™ family. This has in part been due to the fact that B74 has not performed on certain farms and that some growers have not been comfortable with working in the more rigorous network of the Calypso™ project. A number of existing growers have expressed the desire to grow more trees which is a positive sign towards the success of the variety.

FUTURE DIRECTIONS

According to OneHarvest[6], the Calypso™ mango project is expected to add AUD$50 million to the value of the Australian mango industry in the next five years. It is estimated that the overall harvest of the Calypso™ mango will increase from the 50,000 trays produced in 2003 to over 1 million in 2010[7].

KEY MESSAGES

- QDPIF and Dorrian's identified commercialisation partner The Harvest Company through a tender process. They see The Harvest Company as possessing the "energy and excitement" to commercialise and improve the variety.
- QDPIF and Dorrian's through accepting a royalty stream based on a percentage of sales returns, are accepting a significant portion of the risk associated with the successful performance of the variety. This

[5] Timbercorp. 2006. 2006 Timbercorp Mango Project. www.timbercorp.com.au
[6] OneHarvest. 2005. Calypso Mango. http://www.calypsomango.com.au/did-you-know.cfm.
[7] OneHarvest. 2006. Calypso Farm Management. http://www.oneharvest.com.au/content/?id=151

shared risk model is more acceptable to a commercialiser who does not have to pay up front fees and more importantly to growers who don't have to invest additional sums either as a tree royalty or up front hectarage fee.

- A closed loop marketing system underpins the commercialisation strategy. Commercial growers and corporately owned and managed orchards are obliged to sell all Calypso™ mangos produced, through The Harvest Company.

- Where new varieties are developed there must be 'spend' on identifying the agronomic characteristics and requirements necessary for the optimum agronomic performance of the product. In the case of B74 the investment in the R&D project with HAL was three years after The Harvest Company had become the commercialiser. It must be remembered that if the products are different genetically from that currently available the same growing requirements of traditional varieties may not be optimal for new varieties.

- If a commercialiser is going to invest considerable sums of money into R&D as The Harvest Company has done for B74, they must be assured that their investment can be protected. In the case of B74 mango this protection has come through the development of the 'closed loop marketing system'.

- Financial returns on the intellectual property back to the owners is on the basis of an end-point royalty stream from fruit sales by The Harvest Company (OneHarvest). Income is collected as a commercial transaction managed by The Harvest Company, not through a fourth party and not on the sale of propagating material. This shared-risk model allows for greater transparency between the parties and management of royalty payments.

- Early market trials and planning helped to quantify future market demand for Calypso™ mangoes. OneHarvest have been able to leverage off of early trade interest and a commitment to R&D to attract a large-scale commercial partner in Timbercorp who, in turn, will assist with raising capital for managed B74 plantations to meet tree number requirements.

- The Harvest Company will endeavour to commercially exploit the B74 in a manner that maximises its economic potential and returns for growers on a sustainable basis.

- The Harvest Company is committed to the development of 'closed loop marketing systems' as this allows them to control the development of the variety over time. Further, it allows them to select partners with whom they as commercialisers feel the most comfortable in working with. This in their opinion is especially important at the Grower level. The Harvest Company has developed a "Grower Selection Matrix" (not available due to commerciality) which focuses on areas such as the financial capability of the grower, attitude and vision of the grower, location, farm resources available to the grower and climatic conditions.

- As the commercial partner, The Harvest Company has shown a clear vision to commercialisation of the variety and been prepared to invest itself in furthering the variety's performance. Through voluntary contributions to the project, The Harvest Company in conjunction with Horticulture Australia Ltd have invested in improving the pre- and post-harvest supply chain.

Superior Seedless® Table Grapes

ABSTRACT

This Case Study specifically examines the commercialisation in Australia of the Sugraone table grape variety, commonly known as Superior Seedless® or Menindee Seedless table grape. Plant variety protection for Sugraone was refused in the early 1990s. This ultimately led to court action prefacing an amendment of the PBR Act to exclude certain activities as being considered as sales. Despite a failure to secure PBR in Australia for Sugraone, Sun World has been largely successful in building its licensed grower network not only for Superior Seedless® grapes, but other proprietary Sun World fruit. Through providing licensees with a high level of technical support and access to new and improved varieties, Sun World has established a solid commercialisation network for its plant material in Australia.

BACKGROUND

The Sugraone table grape from Sun World International (USA) was developed as an early season white seedless variety. Lead-time to fruit production from planting of vines is approximately two and a half to three years. The product was developed in the late 1960's by a breeder in California. On 29 April 1970, the breeder applied for a plant patent in the United States. This was ultimately granted on 11 April 1972. It was plant patent 3106, sought under the designation Berenda White, which refers to the same variety as Sugraone[8].

Marketed under the SUPERIOR SEEDLESS® brand, and commonly referred to as Menindee Seedless, the Sugraone has characteristic large berries and a firm and crunchy texture. The berry has a crisp, mildly sweet flavour and averages 17 brix with low acidity. Sugraone has excellent storage and shipping capabilities (9+weeks) and the vine is vigorous, consistent and productive.[9]

Established in 1976, Sun World International is a Californian-based breeder, grower and marketer of about 75 premium varieties of fruits and vegetables, including table grapes, citrus, red and yellow sweet peppers, seedless watermelon, and stone fruit on approximately 17,000 acres in California[10]. Though Sun World operates one of the world's largest fruit breeding programs and has extensive farming and packing operations in southern and central California, it filed for Chapter 11 bankruptcy protection in 2003. Black Diamond Capital Management acquired Sun World's assets for about $128 million in 2005.

Superior Seedless® are grown in Alice Springs in the Northern Territory ; Emerald, Mundubbera and St. George in Queensland; Bourke, Menindee and Balranald in New South Wales; Mildura and Robinvale in Victoria; and Carnarvon, Swan Valley and Harvey in Western Australia. Available from late November to early February, Superior Seedless® grapes are one of the earliest table grapes in season.

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[8] http://www.austlii.edu.au/au/cases/cth/federal_ct/1997/924.html
[9] Australian Table Grape Association. 2006. Varieties. http://www.atga.com.au/Content.asp?id=72953&cid=42014&RegId=19292. Visited 14 September 2006.
[10] Hoovers. 2006. Sun World International. www.hoovers.com. Visited 14 September 2006.

AUSTRALIAN TABLE GRAPE INDUSTRY

Table grapes are grown commercially in Australia in Alice Springs and all Australian states, with the exception of Tasmania. In 2002, national production totalled 86,523 tonnes, of which 56,428 came from the Sunraysia / Mid-Murray region of Victoria. The farmgate value of table grapes was $171 million in 2001/02, with some 143,373 hectares under cultivation.

Table 2: Australia – Figure Grape Production by State (tonnes)

Season	NSW	VIC	QLD	SA	WA	NT	Total
1999	14,128	42,391	5,586	2,149	3,531	2,106	**69,891**
2000	14,155	41,748	4,782	2,049	2,852	1,206	**66,791**
2001	10,956	40,385	4,909	2,124	3,922	2,392	**64,688**
2002	11,078	56,428	7,864	2,679	4,621	3,853	**86,523**

Source: HAL (2004)

In 2002, export market sales accounted for 58,000 tonnes or just under 70 per cent of total Australian table grape production. The total value of exports was approximately $95 million[11]. Hong Kong accounted for 21,011 tonnes of imports from Australia in 2001/02, followed by Singapore with 9,296 tonnes and Malaysia with 8,841 tonnes. Indonesia, Bangladesh, Thailand, New Zealand and Vietnam also imported smaller quantities of Australian grapes. Superior Seedless® however is not currently exported from Australia.

The Asian market is substantial and growing, consuming around 700,000 tonnes of imported table grapes annually. As it absorbs around 80 per cent of our total export crop, the region is our most important and valuable market.

Although Australia's table grape crop comprises less than 1 per cent of total world production and 2 per cent of total exports of table grapes, the industry is one of the country's fastest growing horticultural industries, more than doubling production over the past decade[12].

The Menindee Seedless and Superior Seedless® are popular white varieties. They are harvested between early November and early February, making it the earliest fruit of the season along with the Flame seedless red variety. In fact, in its supply window, Menindee Seedless and Superior Seedless® are the only white seedless grape grown in all regions north of Sunraysia. Thompson Seedless (a white variety) and Red Globe are the other primary varieties in season from January to May.

INTELLECTUAL PROPERTY

OVERVIEW

Sun World International is the intellectual property owner for the Sugraone grape variety, an early-ripening white seedless variety marketed by Sun World and its licensees under the Superior Seedless® brand. Sugraone is

[11] HAL. 2004. The Australian Horticulture Statistics Handbook 2004. Horticulture Australia Limited. Sydney.
[12] Timbercorp. 2006. The Australian Table Grape Industry. http://www.timbercorp.com.au/default.asp?cid=12201&t=Australian_industry. Last viewed 15 September 2006.

produced on around 15,000 acres across five continents. Licensed producers are located in California, Spain, Italy, Australia, Israel, South Africa and Namibia[13].

Sugraone is the company's flagship variety. Sun World has also made available a wide range of proprietary white, red and black seedless varieties developed at Sun World's Research and Development Center and marketed under brands including Midnight Beauty®, Coachella Seedless™, Sable Seedless™ and Sophia Seedless™.

Developed in the 1960s, it has been argued by Sun World International that the preferred table grape variety in Australia, 'Menindee Seedless', was essentially a pirated variety. The Menindee Seedless was pioneered out of the Menindee region of New South Wales many years before Sun World entered the Australian market with Superior Seedless® licensing agreements.

Despite an unsuccessful Plant Breeders Rights application for Sugraone in Australia, Sun World has been successful in securing a number of licensing agreements with Australian entities on producing and marketing the variety. The agreements recognisee Australian Sugraone grapevines as the property of Sun World and they cannot be reproduced.

There is no current known action by Sun World against Australian table grape grower who are not licensees of Superior Seedless®.

PLANT BREEDERS RIGHTS

In July 1991, Sun World applied to the Registrar of Varieties in Australia for plant variety protection for the Sugraone vine. Two years later, the Registrar refused the Sun World application on the ground that the original plant breeder of Sugraone, John Garabedian, had sold the vines to a company called Superior Fruit Company (SFC) in 1972, more than six years before the application. This sale was contrary to Section 14 of the Plant Variety Act 1987. In December 1984, Howard Keck Junior acquired from SFC a quantity of the Sugraone grapevine on condition that Keck not asexually propagate from the grapevines or sell, transfer or give them or their propagation wood away for the life of US Plant Patent 3106 (granted April 1972). SFC retained the right to market fruit grown from the vines for five years. Agreements were also made with three Chilean films, and an Italian company.

The Registrar's decision sparked a series of Federal Court Appeals by Sun World involving interpretation of the term "sale" under the PVR Act of the time. A full bench of the Federal Court heard a final appeal on 20 March 1998, the decision transcript for which can be found under 'Judgements' at http://www.fedcourt.gov.au. The Federal Court found that five transactions constituted prior disqualifying sales under Section 14. It took a broad definition of the meaning of "sale".

As a result of the court proceedings, on 19 December 2002 the PBR Act was amended to exclude certain activities as being considered as sales. IP Australia[14] surmised that:

> *"…the Federal Court judgements in the Sun World case confirm the view that the supply of propagating or harvested material in exchange for money, goods, by way of let or barter (and barter could include services) constitutes a sale under the PBR Act, provided that it is done with the consent of the breeder. It is immaterial whether or not the exchange occurs privately, to the public, to wholesalers, in small*

[13] Sun World International. 2006. Sun World Company Profile. Visited 14 September 2006.
[14] IP Australia. 2006. 'Plant Breeders Rights'. http:// www.ipaustralia.gov.au/pbr/whatsale.shtml Visited 15 September.

numbers or below market value. In certain circumstances, some specific activities relating to the exchange/disposal of materials derived from multiplying and evaluating the variety are excluded from consideration as a sale."

TRADE MARKS

Sun World owns the Superior Seedless® trade mark registrations in the United States and 24 other countries. In Australia, trade marks are registered for Sun World Superior Seedless® and Superior Seedless® by Sun World under Class 31 (Fresh fruit and vegetables).

LICENSED DISTRIBUTORS

In Australia there are currently two licensed distributors of Sugraone (Superior Seedless® brand) table grapes: Perfection Fresh Australia Pty Ltd, and Table Grape Growers of Australia (Vine Fresh Pty Ltd).

THIRD LINE FORCING

As Superior Seedless® table grapes are being commercialised under a 'closed loop' marketing system, Sun World International has had to take out a third line forcing notification with the Australian Competition and Consumer Commission (ACCC). Third line forcing occurs when a supplier places a condition on the supply of its goods or services that the customer must acquire goods or services of a particular type from a third person nominated by the supplier. [15]

In October 2002, Sun World International lodged a notification (#N91042) to the ACCC in relation to a proposal to offer proprietary fruit rights to 'Authorised Producers' on the condition that the Authorised Producer obtains the proprietary fruit (various varieties) from a Sun World licensed nursery and only makes the proprietary fruit available for distribution by authorised Sun World distributors.

The notification was in accordance with sub-section 93(1) of the *Trade Practices Act 1974.* Sun World in its application to the ACCC claimed that it does not believe its proposal constitutes third line forcing because:

- "…Authorised Producers are not compelled to obtain Leased Plants or other goods or services from Sun World or Licensed Nurseries; it is simply the case that Sun World and Licensed Nurseries are the only persons who can supply the Leased Plants; and
- in Sun World's opinion, Authorised Producers are supplying goods to Licensed Distributors in the form of fruit which is sold or provided on consignment to Licensed Distributors, for sale to supermarkets, food service companies and other retailers. Authorised Producers do not acquire goods or services from Licensed Distributors…"[16].

Registering a notification with the ACCC describing this supply arrangement has allowed Sun World, in this case, immunity from the Trade Practices Act. The ACCC however may act to remove immunity afforded by their notification at a later stage if it is satisfied that the likely benefit to the public from the conduct will not outweigh the likely detriment to the public from the conduct.

[15] Commonwealth of Australia. 1998. Guide to authorisation and notification for third line forcing conduct. Canberra.
[16] Australian Competition & Consumer Commission. 2002. Sun World International Inc – Third Line Forcing Notification. http://www.accc.gov.au/content/index.phtml/itemId/610808. Visited 18 September 2006.

COMMERCIALISATION

NURSERIES

In September 2001, Sun World appointed ANFIC (Australian Nurseymen's Fruit Improvement Company) to introduce and promote Sun World's new fruit varieties to Australia. ANFIC is a not for profit company, limited by guarantee and comprised of 12 members that operate fruit nurseries. The group's stated aims are to facilitate the greater exchange of information on varieties around the world and offer access to fruit varieties. ANFIC currently manages more than 1,200 fruit varieties in Australia from 50 breeding programs in 12 countries. Of the 1,200 fruit varieties, fewer than 120 are currently produced in commercial quantities.

ANFIC's role was to import, evaluate and commercialise Sun World's high-quality virus-indexed plant material, including lines other than table grapes. ANFIC's General Manager was Bob Wickson, who in December 2002 was appointed as Regional Licensing Manager for Australia and New Zealand.

In early 2006, ANFIC's arrangement with Sun World ceased. Individual nurseries continue to propagate Sun World material, including some ANFIC member nurseries.

GROWERS

Sun World does not openly promote its table grape varieties to growers in Australia, preferring instead to identify well-credentialed growers when and if needed to fill forecast production and demand for Sun World varieties. Growers are hand selected and enter into an ongoing relationship with technical and intellectual property support from Sun World.

To protect Sun World's ownership of the Sugraone variety, and other cultivars, and to control the quality of Proprietary Fruit marketed and distributed under the Sun World trade marks, in Australia and internationally Sun World only grants a party the right to be an 'Authorised Producer' on the conditions that:

- Authorised Producers only lease Sun World cultivars plants ("Leased Plants") from Sun World with such plants to be obtained from Licensed Nurseries; and
- Authorised Producers only make Proprietary Fruit available for sale to Sun World or Licensed Distributors.

Under the Sun World system, Authorised Producers do not purchase the Leased Plants. Sun World retains ownership of Leased Plants with Authorised Producers paying a lease fee to Sun World for use of Leased Plants for the purpose of growing Proprietary Fruit for sale. Authorised Producers also pay Licensed Nurseries appropriate fees for root stock, administration costs and/or propagation services.

Specifically, in consideration of Sun World granting its authorisation to Australian licensees (Authorised Producers) to grow the licensed vines, the licensees entered into contractual agreements to pay the following growing fees, although payment methods likely varied from licensee to licensee:

a) A one-time "propagation fee" per licensed vine received from the Licensed Nursery or Sun World's designated agent, payable to the nursery and prior to receipt of the licensed vines. The propagation fee was negotiated prior to Sun World granting the Production Licence to the licensed grower for each selection of licensed vines and based on standard industry practices as it relates to propagation fees for proprietary plants in Australia. The licensed grower also pays the licensed nursery its fees for services at commercially acceptable rates.

b) An annual fruit "production fee" of a certain percentage of the net F.O.B. (Incoterms 2000) selling price invoiced to the purchaser of all licensed fruit which are, directly or indirectly sold, assigned, transferred or otherwise disposed of by the licensed grower or its affiliates for resale or consumption. The fruit production fee is determined by Sun World, with input from the licensed grower, prior to Sun World granting the Production Licence to the grower for each selection of licensed vines and based on standard industry practices as it relates to production fees or royalties for proprietary plants.

c) Annual Trade Mark Fee: The licensee agrees to pay Sun World for the use of trade marks and Sun World granting such licence a small annual fee during the agreement term.

Australian Food and Fibre (AFF Properties Pty Ltd) was the first licensed grower of Sun World grapes in the late 1990's. The impetus for joining the Sun World program was to seek ongoing technical assistance with the Sugraone plantings and access to new varieties. Growers like AFF that had Sugraone planted and entered into the Sun World licensing system, had to pay the propagation fee as part of a process to 'legitimise' the Sugraone vine as Sun World.

AFF later sold their aggregation into a joint venture between the Table Grape Growers of Australia (TGGA). TGGA now manages the AFF properties on its behalf. TGGA has six properties of its own in Australia and around 20 licensed growers external to TGGA supplying Sugraone and other table grape varieties. The company holds two categories of licences with Sun World: the first is a production licence for individual farms detailing individual plantings of Sun World varieties; the second is a marketing and distribution licence for TGGA's marketing arm, Grower's Choice which is one of two licensed marketers and distributors of Sun World table grapes.

Perfection Fresh is a licensed distributor which, similar to TGGA, has licensed growers supplying them although the number of growers producing Superior Seedless® grapes is confidential.

GROWER TECHNICAL SUPPORT

Licensed growers become part of a global network of Sun World producers, all of whom have access to Sun World's technical support program. TGGA for example has two visits annually to its growers' properties from a South African-based Sun World technical expert. At any time a licensed grower is seeking technical expertise and would like to make contact with other growers of Sun World breeding and research programs anywhere in the world, the regional licensing coordinator encourages this interaction and will try and facilitate the exchange.

The Sun World website is also used as a tool for making a significant amount of technical and agronomic information available to its licensees.

Licensed marketers in most grape producing regions of the world obtain usage rights to the Company's Superior Seedless® trade mark and other promotional programs, while agreeing to adhere to Sun World's Sugraone quality specifications[17].

CONTROL OF PLANT MATERIAL

Licensed growers enter into an agreement with Sun World International for the planting and growing of Sugraone vines. In addition to the one-time propagation fee and fruit production fee mentioned above, the licensee agrees to provide Sun World with a written report within 30 days of receipt of the vines from the nursery which includes

[17] Sun World International. 2006. Sun World Company Profile. Visited 14 September 2006.

the following: (i) the number of Sugraone vines received from the nursery; (ii) a the number of hectares of Sugraone vines planted in the agreed farming property of the licensee; and (iii) a legal description of the property.

The licensee is not authorised to grow or cause others to grow the vines outside of their legal property.

QUALITY STANDARDS

In its agreement, Sun World outlines quality specifications for fresh Sugraone variety table grapes marketed by Sun World and its worldwide licensees as Sun World Superior Seedless® and/or Superior Seedless® brand table grapes. The specifications define the minimum requirements and tolerances for the variety and Sun World reserves the right to amend the specifications to meet governmental or market requirements.

The standards outline minimum requirements including: labelling; application points for labelling; carton type; and quality standards, including a defects tolerance level, bunch shape, size and weight, average berry size, colour, texture, flavour, and maturity level (measured as a minimum sugar to acid ratio with minimum soluble solids percentage).

Sun World requires prior written approval for all signs, labels, packaging, and advertising bearing the trade marks. The licensee also agrees to provide Sun World upon request with a report detailing the quality standards of the Sugraone grapes being packed and shipped by the licensee in connection with the trade marks. Sun World may also request samples of packaging material and advertising material bearing the trade marks. They also reserve the right to inspect the operations and facilities or the licensee with respect of the agreement without prior notice.

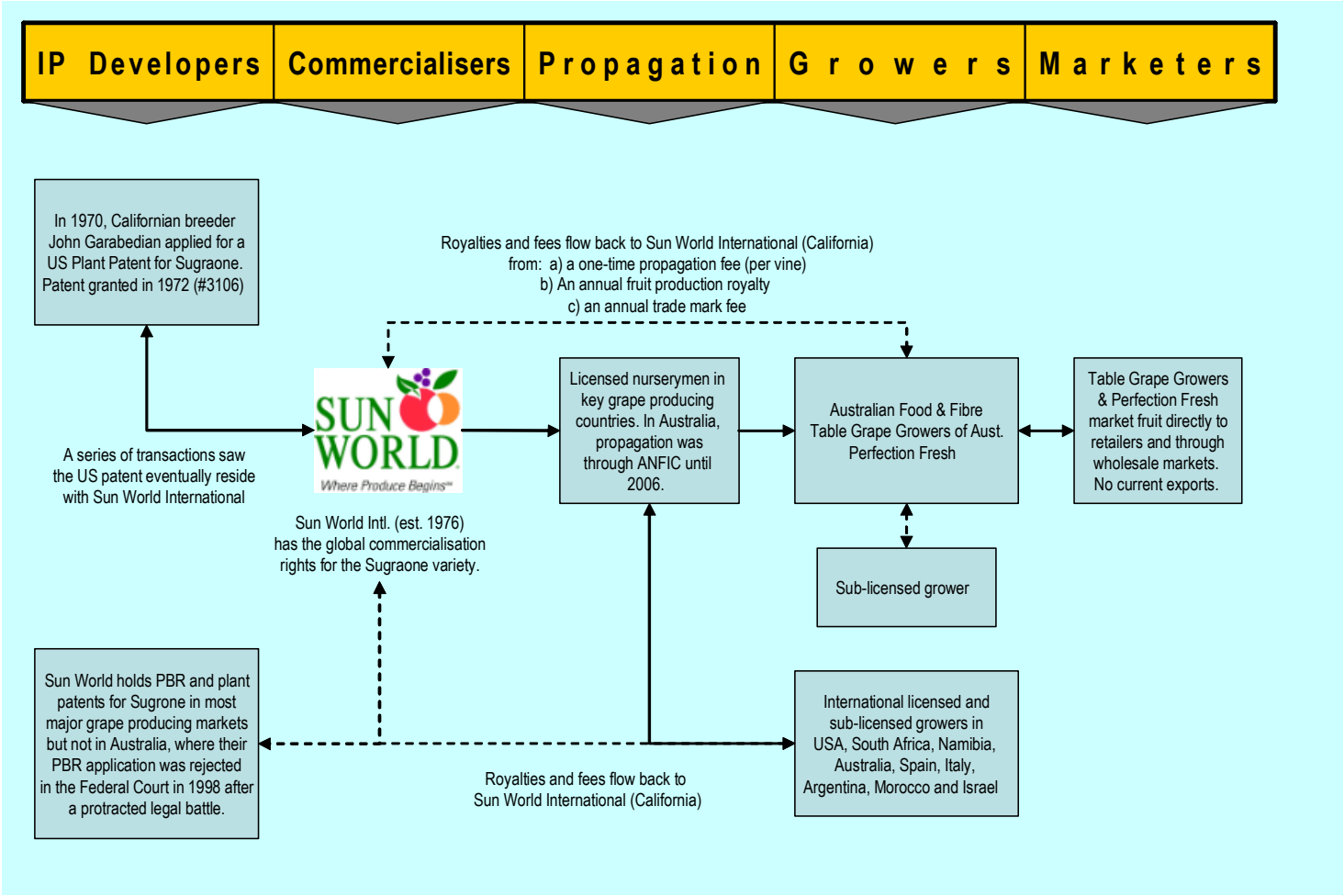
DISTRIBUTION AGREEMENTS

Grower's Choice, the marketing arm of Table Grape Growers of Australia (TGGA), and Sydney-based Perfection Fresh are the only licensed distributor of Sun World grapes in Australia. They supply supermarkets, independents retailers, food processors and fast food chains nationally.

Perfection Fresh has licensed growers in Western Australia, Northern Territory, Queensland, New South Wales and South Australia. They are also responsible for importing and distributing imported Sun World USA fruit during the off-season[18].

[18] Sun World International. 2005. Sun World Fruit Alliance New July 2005. http://www.sun-world.com/Sun-WorldFruit/Newsletter/News05/News%2005-July.htm

Figure 4: Superior Seedless® Table Grapes Commercialisation Supply Chain



Grower's Choice and Perfection Fresh have "caps" on volumes on each Sun World variety. Each marketer has equal distribution of the caps. Between Sun World, Grower's Choice and Perfection Fresh, the volume of table grapes produced is planned as part of a globally coordinated supply system for Sun World varieties. This closed-loop system across geographic markets aids in limiting overproduction of varieties in any particular market.

Grower's Choice supplies grapes direct to Coles (through Integrow) and Woolworths (through Croplink). Grower's Choice is very focussed on full service delivery to Integrow and Croplink and their respective retail chain business managers. This includes a very high level of Quality Assurance reporting and satellite-linked intranet picking, loading and Quality Assurance database systems. Integrow and Croplink have extended service delivery into promotional planning and market research based category performance.

Internationally, the Sugraone grape and its licensees under the Superior Seedless® brand, is produced on over 6,000 hectares acres across five continents[19]. A list of the licensed distributors in the United States, South Africa, Namibia, Australia, Spain, Italy, Argentina, Morocco and Israel follows:

Table 3: Fruit marketing companies authorised to distribute Sugraone (Superior Seedless® brand) grapes

Country	Companies (as at September 2006)	
Australia	Australian Food & Fibre (Golden Mile Orchards) Perfection Fresh Australia Pty. Ltd Table Grape Growers of Australia	
South Africa / Namibia	Afrifresh Export CC Capespan Colors Fruit (SA) Pty Ltd Delecta Fruit Del Monte Fresh Produce (Pty) Ltd De Wet Nel Boerderye (Edms) BPK Dole SA Pty Ltd Elisama Export Exsa Pty Ltd Fedfa Exports Fivestar Producers (Pty) Ltd Frapeja Export Freshgold Pty Ltd Fruits Unlimited Green Marketing Int. Groenheuwel Top Fruit CC Hoekstra Fruit Exporters Pty Ltd Hurst Parnell Import & Export Co. Intertrading Exports Pty Ltd Jandi Exports Pty Ltd. J H Retief Boerdery Juberico Products Katope Cape Le Roux Fruit Exporters (Pty) Ltd	Lona Trading (Pty) Ltd Morester Boerderye Nagrapex (Pty) Ltd New Vision Fruit Pty Ltd Oceanic Fruit Exports (Pty) Ltd OREX Export Pty Ltd River Fruit Grapes Pty Ltd SA Fruit Exporters Pty Ltd (SAFE) SA Fruit Promotors (Pty) Ltd Simdall Projects 121 CC Solfruit International B.V. Southern Farm Investments Pty Ltd Southern Fruit Growers Stellar Farming Pty Ltd Suiderland Plase (Edms) Bpk Sunpride (Cape) Pty Ltd Sunprix Table Grapes CC The Grape Company Unifrutti South Africa Pty Ltd Van der Lans Cape Fresh Vroeësen Boerdery Wolfheart CC WP Fresh Distributors (Pty) Ltd 4 Seasons Exports Pty Ltd XL International Pty Ltd
Italy	Agricoper di Gianni Liturri SRL Apirene di Puglia Apofruit Italia Assofruit Soc. Coop DiDonna Trade SRL	Ditta Messina Francesco Giuliano SRL Giacovelli SRL Orchidea Frutta SRL Peviani SPA Simone SRL

[19] SunWorld International. 2006.

Country	Companies (as at September 2006)	
Saudi Arabia	Al-Khalidiah Farm, KSA Tabuk Agricultural Development Co. (TADCO)	
Spain	Agricola Santa Eulalia Agroexco SL Alhuva Soc Coop LDA Ballena Trading SL Coato Soc Coop Comerical Ralguero SL D. Andrés Bastida Julia Deahlor Soc Coop Agraria El Ciruelo SL El Lomo SL El Murtal SL Frutas Ali SL	Frutas Esther SA Frutas Felix Gomez e Hijos SL Frutas Guadalentin SL Frutas Torero SA Frutera Internacional SA Las Cabezuelas Soc Coop Molinese Distribucion y Mercados SA Morte Quiles SL Sat Blanca Sol Sdad Coop Sagrado Corazon de Jesus "SACOJE" Superior Fruitcola (Munoz)
Israel	Israel Fruit Board (all Israeli producers)	
United States	Sun World International, Inc.	
Egypt	Kingdom Agricultural Development Corp.(KADCO) Karsten Middle East Deifalla Agricultural Company	
Senegal	Safina	

Source: Sun World International (2006)

TRADE MARK LICENCE AGREEMENT

Growers of the Sugraone variety enter into a trade mark licence agreement with Sun World International. The agreement grants the grower the non-exclusive, non-transferable and non-assignable right and license to use the Superior Seedless® and Sun World Superior Seedless® trade marks solely on or in connection with the promotion, sale, marketing and distribution of Sugraone Grapes within a defined territory (in the Australian licensees' case throughout the world).

OUTCOMES

Unlike fruit varieties such as Pink Lady™ apples, Superior Seedless® has not been able to achieve a point of difference in the market from non-Superior Seedless® brand Sugraone varieties, otherwise commonly known as Menindee Seedless. The Australian trade and consumer do not recognise any discernable difference between the two brands and, according to at least one grower-marketer of table grapes, there is little varietal recognition of Sugraone as anything other than a generic white grape.

Marketing of a Superior Seedless® brand is stymied at point of sale by the ranging policies of the major retailers, especially the use of returnable plastic crates (RPC's) and control labels, such as Woolworths' Naturally Sweet Fresh brand or Coles' 'White Seedless' generic brand, which limit branding opportunities.

With limited opportunity to differentiate on brand in Australia, according to one licensee source, there has been no economic gain to growers in the past four years of marketing Superior Seedless® as opposed to when they were grown and marketed as Menindee. The growers however see clear value in investing in a long-term relationship with Sun World and being part of a potentially strong marketing group in the future. Sun World invest significantly in new variety development which its Australian and international licensees have coordinated access to. The hope being they can break out of growing and trading common varieties and establishing points of varietal and, potentially, brand differences in the marketplace, thus ensuring higher returns to growers.

KEY MESSAGES

- The commercialisation strategy is built around a globally structured closed loop marketing system. Sun World licensees become part of the Sun World Fruit Alliance. Growers are obliged to sell all Superior Seedless® grapes produced through licensed distributors of Sun World.
- Sun World coordinates distribution of Sun World cultivars so that quality remains high, production is limited, and FOB prices remain strong.
- In the case of the Sugraone variety, the company was not able to secure Plant Breeder's Rights in Australia. Prior sale of Sugraone plant material affected the registration of the variety with subsequent legal action culminating in a change to the PBR Act.
- Closed loop production is coordinated on a global as well as regional basis, with caps enforced on production to control volume and therefore strengthen prices where possible.
- The value of technical support and agronomic information from the breeders, as well as access to new improved varieties is a key feature of the loyalty Sun World has developed in the Australian market. This is despite the fact there is no discernable difference in the Menindee and Superior Seedless® brands of the Sugraone variety and consequently no premiums returned to growers from marketing under the Superior Seedless® program.

A-Series Macadamias

ABSTRACT

The A4 and A16 variety macadamias have a special place in Australian plant intellectual property history. The varieties were the first Australian plants of any Genus or species to be granted Plant Variety Rights under the new Act at that time. The product of a breeding program by the Bell family of Hidden Valley Plantations in South-east Queensland, the protected A-series varieties dominated plantings of macadamia trees in Australia in the decade following their commercial release. Around one-quarter of Australia's current macadamia plantings are thought to be A4 and A16 trees. The Bell's commercialisation process was a relatively simple one that probably failed to capture the true value of the varieties. It relied solely on a fixed royalty from tree sales in licensed nurseries, primarily in Australia.

BACKGROUND

Henry Bell came to Queensland in 1955, leaving behind a sheep and cattle stud in New Zealand. With six generations of farming in his family, that association would later direct the Bells into the field of plant breeding. In livestock, Henry looked at meat ratio, staple length and micron and weight of fleece, far less characteristics than what he would look at when assessing macadamias.

The Bell's bought their present home property, Hidden Valley Plantations (HVP) in Beerwah (Southeast Queensland), in 1956 and planted their first macadamias in the early sixties. At that time, there were about half a dozen varieties available in Australia: the H2, Own Choice, S1, Teddington, and Hawaiian varieties 246 and 508. Growers believed then that the Hawaiian varieties had to be the best because they came from an established industry. However no account was ever taken for the fact that they were bred in a much safer environment than Australia's harsh, more extreme climate.

The Bell's used to graft *in situ* in the field and Henry, out of curiosity, always allowed one sucker to come away below the grafted area to see how it performed. He observed time and again that the sucker from the rootstock bore heavier crop than the scion. He also noted the heaviest crops were usually on seedling trees of hybrid origin grown in their locality. It was this fact that started the Bells down the track of plant breeding. Mr Bell also credits the encouragement of Norm Greber – the father of the Australian macadamia industry – who taught Henry how to graft and was the first person to graft macadamias in Australia. One of his selections – Renown – would later form the base of the Bell's plant breeding program.

HVP began its breeding program in 1980 when they selected A4 ('A' for Australia, and '4' for the fourth selection). At that time, HVP did not do controlled crosses but simply selected a female parent and used the seed that was open-pollinated. The following year they selected A16 – the 16th selection. In 2006, HVP reached 647 selections, 36 dwarf selections and 10 garden selections.

Until 1985, Henry Bell used a system of colour coding to assess new selections (he was later told that the Chicago police force used the same system for cross-referencing criminals when looking at suspects). Henry simply used a column analysis book with 27 different characters that could be rated in different colours: red for 'excellent'; orange for 'above average'; green for 'average'; blue for 'below average'; and black for 'awful'. As an example, reading across the columns of characters for a selection, if there was more than one black rating the selection would be rejected. In 1985, this system was eventually superseded by the computer. They used a parametric sensitivity analysis whereby the Bell's could weight either kernel or field characteristics or give an unweighted print out. The system was introduced to Henry by his brother who used it in sheep and cattle breeding in New Zealand. The Bell's were possibly the first to use such a system in fruit breeding in Australia.

Between 1980 and 2006, in the course of over 25 years HVP screened more than 10,000 trees from which they made 647 selections most of which have since been discarded, HVP have released three varieties to date. The Hawaiians in their original screening released five cultivars from 20,000 trees, so the percentage is not very different.

Breeding Macadamias is a very long term proposition, as each generation takes at least five years to grow from nursery level to making field assessments. It can take up to 15 years before limited release is considered for trial in other regions. However, very little breeding work had been done in the crop in the past, so any methodical breeding program had a high likelihood of producing improved varieties.

The main criteria for new varieties sought by Henry Bell, and his son David, are early bearing, high yield of kernel per hectare (acre), and good quality kernel. High kernel recovery (KR = wt kernel/wt nut) is also very desirable, because a high KR variety producing the same quantity of nuts as a low KR variety will at the end of the day produce more kernel. Insect and disease resistance are also desirable, as are many other agronomic factors. In HVP's breeding program, they assess a total of 28 characteristics.

The Hidden Valley A4 variety was selected in 1980 and was released in 1987, becoming together with the A16, the first Australian plants of any Genus or species to be granted Plant Variety Rights under the new Act at that time. The A4 variety is a very precocious tree that can produce commercial yields in three years, one of its key attractions to growers. It is a medium spreading tree with an open canopy. The variety is tolerant to Husk Spot and susceptible to stress from high temperatures.

The A16 was selected in 1981. It is a small precocious very upright tree that produces a high yield per hectare. It has slightly oval shaped nuts. The variety is denser that A4 and rarely grows over 9 metres in height. It is susceptible to Husk Spot but performs well at high altitude and low light levels.

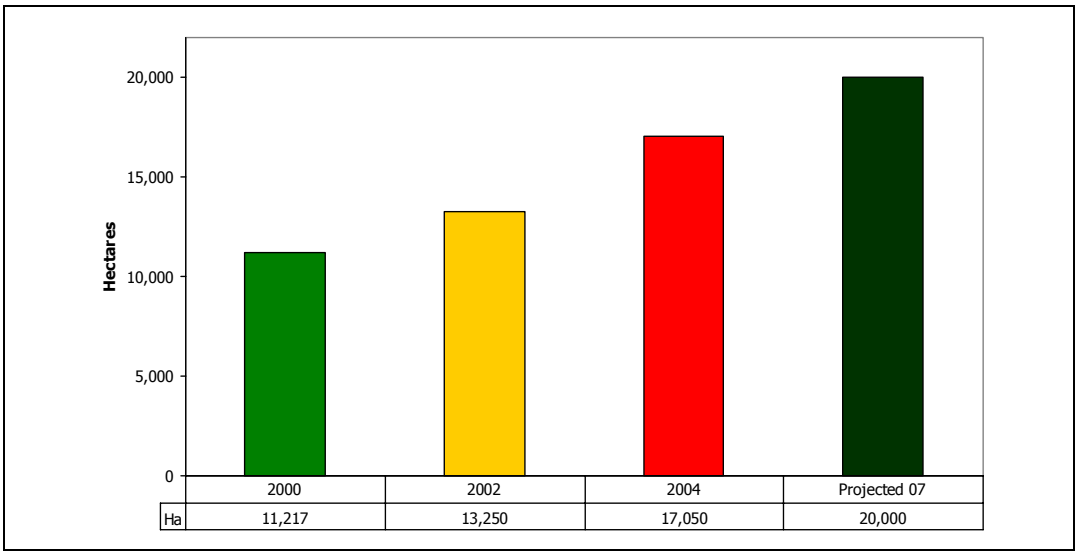
AUSTRLIAN MACADAMIA INDUSTRY

Australia is the largest macadamia producer in the world with 41.6 per cent of world production in 2004, with the next two biggest producers being Hawaii 17.5 per cent and South Africa 12.5 per cent.

Australia currently has between 600 and 800 macadamia producers, with estimates suggesting that 80 per cent of the industry is responsible for 20 per cent of production. Eighty per cent of farms have between 500 and 2,000 trees.

According to the Australian Macadamia Society (AMS) there were 17,050 hectares of macadamias planted in 2004 (see figure below). There were an estimated 5 million macadamia trees planted at the end of 2004. By 2007, the amount of land dedicated to macadamia tree plantings is expected to reach around 20,000 hectares.

Figure 5: Australia – Macadamia Plantings (Hectares), 2000-2007(F)



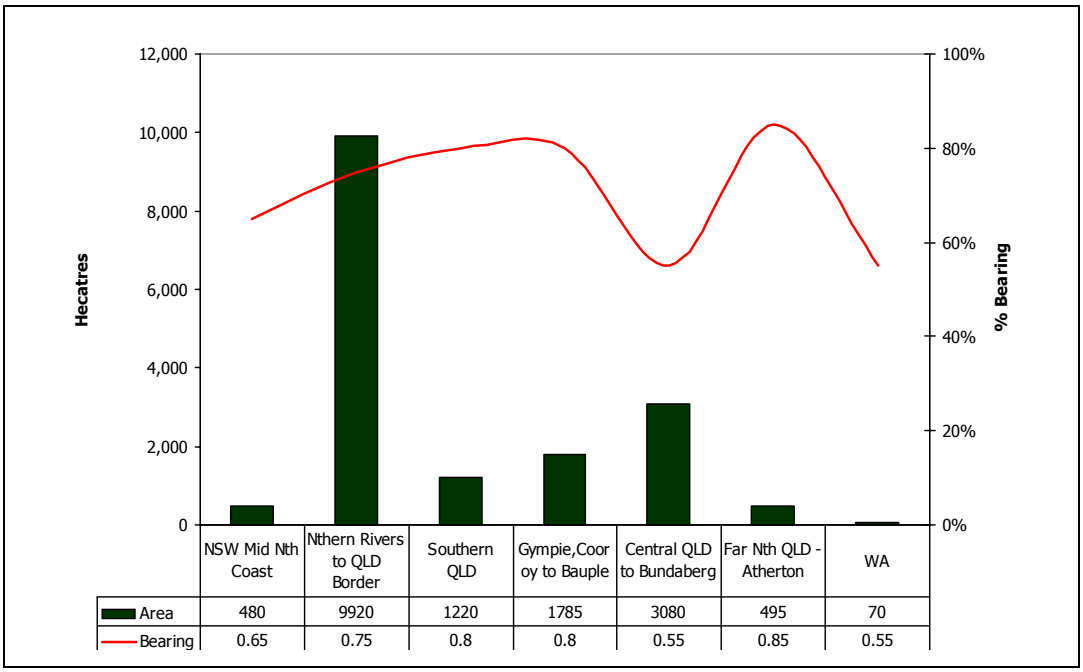
Source: AMS, 2004

In recent years there has been significant expansion of macadamia plantings, particularly in the Central Queensland region where for the years from 2002 to 2004 planting expansion rate is estimated at 300,000 to 350,000 trees per year.

Further, estimates are for new plantings over the next two years to be around 600,000 trees per annum as the nation's two largest growers (Phil Zadro and Steve Grant) continue their planting programs in conjunction with a number of significant plantings from Central Queensland based growers. Further plantings have been forecast to occur in significant quantities in the Western Central Queensland and the Mackay district.

Therefore by the end of 2006 it is estimated that Australia will have between 6.2 and 6.35 million macadamia trees in the ground. Such is the interest in new macadamia plantings that nurseries are fully committed to supplying trees for the next two to two and a half years.

Figure 6: Australia – Macadamia Plantings by District, 2004



Source: AMS, 2004

WORLD MACADAMIA INDUSTRY

In 2003 world macadamia production was 25,700 kernel tonnes (see table below) with estimates of the world NIS production level of around 86,000 tonnes (overall KR recovery of 29.9 per cent). This compares with slightly lower figures of around 83,000 to 84,000 tonnes in each of 2001 / 02 and 2002 / 03 and 78,500 tonnes in 2000 / 01.

Table 4: World Macadamia Production Forecasts, 2003 (Kernel Tonnes)

Country	Production (kernel tonnes)	Comments
Australia	10,700	70 per cent exported, mainly bulk with some value added.
Hawaii	4,500	Only 200 tonnes exported bulk into Japan and Canada, with the majority being value added. Kernel recovery is 25 per cent.
South Africa	3,200	Growing rapidly, improving quality, low cost. Political risk. Kernel recovery is 28 per cent.
Kenya	1,500	Variable quantity, quality, new plantings, 35,000 growers.
Malawi	1,000	Kernel recovery is 25 per cent.
Costa Rica	1,100	Kernel recovery is 18 per cent.
Guatemala	1,100	Kernel recovery is 18 per cent.
Brazil	600	Many trees in the ground, but horticultural problems. Low cost.
China	2,000	Mainly from imported NIS processed and sold locally
TOTAL	**25,700**	

Source: CDI Pinnacle Management, 2005

In the domestic market, 90-95 per cent of macadamias are sold as kernel, as distinct from NIS. Of the total production approximately 70 per cent is sold into processed food industry for confectionery, baking and dairy (ice cream) products. The remaining 30 per cent is sold into retail. A tiny proportion is used in cooking oil but this is priced at a significant premium over substitutes like olive oil, thereby limiting its ability to compete on price.

Consumption of tree nuts (which includes macadamias, almonds, pecans and walnuts) has grown from 2.9 kg per person in 1978 / 79, 3.8 kg per person (NIS) IN 1988 / 89 to 4.8 kg per person per annum in 1998 / 99.

Macadamias only comprise 4.7 per cent of the total value of the retail nut market and consumption estimated at 133 grams per person per year. This may increase if it becomes more acceptable as a unique taste sensation in a wider product range and consumers are made aware of the health benefits. This should also enable the product to reach more consumers through retail outlets.

A recent study by CDI Pinnacle Management estimated that, based on indicative tree numbers (see below) that are currently in the ground and estimates of tree numbers that may be planted in 2005 and 2006 and indicative yields, by 2014 macadamia production could potentially reach over 200,000 tonnes nut-in-shell (NIS).

Table 5: Forecast World Production of Macadamias, 2006-2014

Country	Estimated Tree Numbers (end of 2006)	Forecast Yield (tonnes NIS) 2009	Forecast Yield (tonnes NIS) 2014
Australia	6,475,000	54,825	74,655
Hawaii	1,350,000	18,596	18,900
South Africa	6,073,000	33,726	54,876
Kenya	1,100,000	9,225	10,550
Malawi	1,317,000	9,604	13,929
Zimbabwe	450,000	2,675	4,150
Zambia	550,000	1,175	3,600
Costa Rica	1,050,000	8,200	8,400
Guatemala	708,000	4,144	5,664
Brazil	850,000	3,450	6,600
Paraguay	100,000	600	800
China	250,000	650	1,800
Total	**20,273,000**	**146,820**	**203,924**

Source: CDI Pinnacle Management, 2005

There are a range of endogenous and exogenous drivers and key food industry trends that continue to influence demand for macadamias. With the key global markets of Europe and Japan consuming macadamia nuts primarily in snack nut and as an ingredient input into bakery, confectionery and ice cream products respectively, these market food categories remain the focus of growth and the basis upon which future demand is assessed.

Key demand trends and drivers for macadamias include: health and nutrition benefits and favourable Government rulings on health claims of nuts; convenience factors driving demand for snack foods particularly with functionality; growth in the Asian population who are increasing their base rate consumption of nuts; the impact of the baby boomer generation fuelling demand; an increase in food-away-from-home consumption.

INTELLECTUAL PROPERTY

The intellectual property protection regime employed by HVP is a relatively simple one, significant more so perhaps for its role in Australian PBR history. No other form of intellectual property protection, other than through PBR and patent protection in Australia and the United States has been sought.

PLANT BREEDERS RIGHTS

Applications for Plant Breeders Rights for the two varieties were received on 26 April 1998 and accepted on 5 May 1998. PBR was granted on 24 Feb 1989 for both the A4 and A16. Patent descriptions can be found under application numbers 1988/001 and 1998/002.

The A4 and A16 varieties are also patented in the United States under 'Hidden Valley A4' and 'Hidden Valley A16' (Application Numbers 07/344.278 and 07/344,279), filed in April 1988. MacFarms of Hawaii took out the patent in the US, as part of an exclusive global licensing arrangement with HVP which also covered Australia.

In South Africa, HVP struck an arrangement with a local company, SAPEKOE, a British tea company with extensive tea plantations in South Africa. They had nurseries and took out Plant Breeders Rights as well as set up regional trials to compare performance of A4 and A16 with Hawaiian and South Africa varieties. A4 and A16 performed in the top bracket in all trial regions. The company folded around 2000 with no concrete arrangement in place for the ongoing collection of royalties. The Bell's have since discovered that the PBR for South Africa was not renewed.

The next application in line for Plant Variety Rights was an American rose, an application the Bell's were determined to beat because they felt an Australian variety should be first when setting the Australian standards. The fact that HVP was setting the standard for those that followed meant a significant amount of work and collating of field data. For this, Henry Bell credits the assistance of Calvin Winks of the Queensland Department of Primary Industries, as well as Darryl Firth of the New South Wales Alstonville Research Station.

Henry Bell recalls sending approximately 11 kilograms of paperwork to Canberra for the first applications.

COMMERCIALISATION

NURSERIES

According to the Bell's, the process of having PBR's granted on the A4 and A16 varieties was a relatively costly exercise. They subsequently released other A-varieties and gave nurseries permission to propagate at least half a dozen A-types.

There are 20 licensed nurseries in Queensland selling the three PBR protected A-Type varieties, 22 in New South Wales and one nursery in Western Australia. At one time there were up to 40 licensed nurseries selling HVP plants. There is no set rationale for the granting of nursery licensing arrangements, with the number of operators selling HVP plants following the grower demand curve for the varieties.

HVP has licensed nurseries in Australia and the United States to sell its varieties to the public which in effect act as HVP's agents. In return the nurseries include ($1.50, up from $1.00) or 15 per cent royalty (whichever is

greater) that is paid to HVP. Royalties received from tree sales and sale of scionwood is apparently the sole form of funding for the HVP Breeding Program[20].

Some retail nurseries not listed on the company's website are also able to sell HVP PBR-protected trees. In these cases all trees are marked with a special PBR tag which indicates that the royalty has been paid.

The 'Nursery Agreement' between HVP and wholesale nurseries covers the three A-type varieties protected in Australia under the Plant Variety Act 1987. It also covers the Selections of Hidden Valley A-Series A29, A104, A203, and A268. The Agreement states the nurseries are licensed by HVP to propagate and market and distribute the varieties and selections in Australia, subject to certain conditions as follows:

a) Separate Agreements are to be negotiated for any new varieties or selections in the future.

b) Sales to Businesses: where trees are purchased by Businesses for commercial purposes, trees must not be sold or released from the nursery without the purchaser signing the Grower Propagator Agreement.

c) Sales to the General Public: Where trees are sold to the general public for private use and gardens, a P.V.R. Protection Label must be attached and clearly displayed on each 'tree (Document attached). Sales to the General Public are limited to P.V.R. varieties A4, A16 and A38.

d) The Propagating Nursery will pay H.V.P. a share of all tree sales, equal to 15 per cent of the total sale price, or $1 .50 per tree, whichever is the greater. This share of tree sales is to be paid within thirty (30) days of delivery of the trees to the Purchaser.

e) Any contractual agreement or sale of the varieties or selections made to another nursery must be approved by H.V.P.

f) The nursery will not supply any tree, scionwood, propagation material in any form, or plants taken from the varieties, to any company or grower or business organisation operating outside of Australia, or Agents or persons acting on their behalf within Australia.

g) Subject to supply, the trees must be made freely available to all sections of the industry within Australia. Deliveries should relate to placement of orders.

HVP acts to defend its intellectual property by removing distribution rights from any nursery identified as not complying with licensing arrangements or respecting its Plant Breeders' Rights. One nursery identified as illegally selling trees has been posted as doing so on the HVP website, which HVP feels is an appropriate deterrent for such activity.

GROWERS

It is illegal for growers to purchase or sell A4, A16 and A38 trees from licensed nurseries without entering into a contract with Hidden Valley Plantations. HVP use the same system introduced by Flemings nursery in Victoria with individual Grower Non-Propagation Agreements executed prior to the grower taking delivery from a licensed HVP nursery.

The 'Grower - Propagator Agreement' between HVP and growers covers the three A-type varieties protected in Australia under the Plant Variety Act 1987. It also covers the Selections of Hidden Valley A Series A29, A104,

[20] Hidden Valley Plantations. 2006. Availability, Nurseries, and PBR. http://www.bcitool.com/HVP/AboutHVP.htm. Viewed 16 June.

A203, and A268. The Agreement states the 'Purchaser' (Grower) may buy trees of the varieties and selections from the designated nursery where they intend to purchase the trees. The following conditions apply:

a) The purchaser will not propagate or sell any trees of the varieties or selections to any other party without consent from HVP.

b) The purchaser will not supply scionwood or propagation material in any form taken from the varieties or selections to any other party without the consent of HVP.

c) If the purchaser propagates trees for, or top works trees in their own orchard with scionwood taken from any of the varieties or selection previously purchased, the purchaser agrees to pay to HVP the sum of one dollar (now $1.50) for each tree so propagated or top worked.

OUTCOMES

INDUSTRY UPTAKE

Over 90 per cent of distribution of A-series macadamias to date has been in the domestic market. The commercial launch of the A-type macadamias received an overwhelming response from industry. From the nursery perspective, the industry witnessed an almost comprehensive shift in demand towards the A-varieties. The following decade saw the A-varieties become the macadamia tree of choice, with an estimated 60-70 per cent of all macadamia trees purchased from nurseries during this period being A-varieties, although HVP dispute this figure suggesting it would have been significantly lower. Grower interest centred on the varieties' advertised early yielding and high kernel recovery properties.

Following the first decade of commercial sales however, interest in the protected A-series began to wain. New varieties from Hawaii and domestically superseded the A4 and A16. However the Bells estimate that of Australia's current total macadamia plantings up to 25 per cent of trees would be A-Series varieties.

The A4 and A16 varieties have shown through regional varietal trials to be performing significantly better in the southern colder regions, whereas later A-series varieties have been better suited to hotter regions. Presently though, according to one industry source, sales of A-type macadamias account for around only 10-15 per cent of nursery sales.

In the Bundaberg district, where there has been a recent surge in interest in growing macadamias, invariably new plantations are hedging their bets. Around 20 per cent of trees planted tend to be A-type macadamias, the purpose being to achieve early returns. The remainder of plantings in the district however are primarily Hawaiian varieties.

In Florida, where HVP has a licensed nursery, it is still early days for the A-series macadamias. With the citrus industry suffering canker, Henry Bell senses there is an opportunity for the uptake of HVP's trees as an alternative. The Californian market also holds some potential with the colder climate suited for a limited selection of the A-series.

In South Africa, HVP found the asking royalty rate of $1.00 was too high for local growers due to the exchange rate. Nurseries wanted to pay only $0.70 per tree which was unacceptable to the Bell's who did not want to penalise local Australian growers competitive position by contributing to the already significantly lower cost of production in South Africa. The company is however considering another potential Master Licensee for its plants.

The key growing regions of Costa Rica, Kenya and Malawi are not seen as posing any potential for the A-series because the climatic conditions and light levels are not conducive to growing HVP varieties.

PLANT BREEDERS' RIGHTS

According to Henry Bell, in retrospect the Plant Breeders Rights afforded the A4 and A16 varieties delivered little to HVP. In the Bell's research work, for many years they have budgeted $60,000 annually. This expense requires funding from either royalties ($1 per tree originally, now $1.50) received from licensed nurseries or from the commercial side of the HVP operation. Fifty per cent of HVP's total tree numbers are breeding trees and are not commercially viable blocks. PBR renewal fees are $300 in Australia, which in the case of the Bell's three protected varieties equates to $900 in annual renewal fees. Simplistically, this requires the sale of 900 PBR trees to recoup those costs.

HVP argues that PBR offers them little in return for their investment. Henry Bell cites the example of the event of litigation taken out by a breeder for infringement of rights (conceding this is generally not a possible course of action for a small plant breeder). Whilst PBR confirms that the variety in question is what the breeder says it is and identifies it as their variety, the PBR grant offers little else. All legal costs are borne by the litigants.

VARIETY QUALITIES

Processor opinion is divide as to whether the introduction of A-varieties has met expectations. As the percentage of A-series variety nuts available for processing has increased, some nut processors have learnt that the roasting techniques used on traditional varieties are not appropriate for processing the A-varieties. However recent research findings by the CSIRO[21] indicate that there is no difference between Hawaiian and A-varieties when roasted at the same temperature. Earlier work done in South Africa showed that after roast differences between hybrids and integrifolia varieties only showed up when the Time / Temperature scale was much higher than in a normal commercial roast.

From the Growers perspective, HVP varieties have a high kernel recovery and bear commercial crop earlier than Hawaiian varieties, thus the potential to produce more kenel per hectare in the early years.

THE FUTURE

TRADE MARKS

Whilst demand for the A4 and A16 appears to have waned over time with the release of improved varieties, the Bell's continue to be active plant breeders. They have also experimented with trade marking, although they admit it is an area where they have limited knowledge.

Recently HVP, released a garden variety of macadamia. Yarrahapinni Nursery Pty Ltd, a licensed distributor of the variety with sole distribution rights in New South Wales, filed a trademark application for the variety under the name 'Pinkalicous'. The trade mark appears to deter nurseries from propagating the variety or selling under that name. HVP supplies Yarrahapinni Nursery with the plants and they grow them on before selling to retail nurseries. According to Henry Bell, they are encouraged by the results thus far.

[21] CSIRO. 2006. Management of After Roast Darkening in Macadamia – Final Report MC01008.

MONITORING

According to Henry Bell, at least one of their licensed nurseries located in the United States is using an "electronic chip" as a device for intellectual property protection against unlicensed propagation.

Mr Bell also believes it may pay for HVP to have an agent, working on a commission basis, in-market actively checking on licensed nurseries and collecting royalties due.

KEY MESSAGES

- The A4 and A16 macadamia varieties were the first plants of any Genus or species to be granted Plant Variety Rights in Australia under the new Act at that time.
- Royalties received from tree sales and sale of scionwood are used to fund the HVP Breeding Program. The commercialisation strategy employed has been a relatively simple one of collecting a toll royalty of $1.00 per tree sold through licensed nurseries to growers. Both nurseries and growers enter into an Agreement with HVP covering the three A-type varieties protected in Australia under the Plant Variety Act 1987.
- HVP has relied on third-parties in major macadamia producing markets for distribution of the A-series trees as well as the protection of associated intellectual property. The collapse of a number of Master Licensees and the absence of a continuation plan for the monitoring and collection of A-series royalties may have been at the expense of HVP in lost sales.

South African Grower Clubs

ABSTRACT

This study has identified that valuable lessons can be learnt by commercialisers if they examine the functions of Grower Clubs from South Africa. In particular, the emergence of closed loop marketing systems where PBR are an intrinsic element are quite important in South Africa.

Grower Clubs (GC) refer to collectives of horticultural producers (and possibly others) who are legally bound and who generally work together for the achievement of a key objectives. They are always a subset of an entire industry and so are not generally focussed on providing 'industry wide' benefits. Over a period of years those that have formed Grower Clubs have become disillusioned with industry Associations for a number of reasons which include:

- Lack of commercial focus;
- Slow pace of adoption of change (only moving as fast as the slowest industry mover);
- Bureaucratic nature of decision making;
- Focus on investment in R&D only within the farm gate and not outside of it; and
- Limited focus on consumer and 'up chain' customer needs.

They differ markedly from the commonly formed 'Industry Associations' in Australia, where these associations are open to entry by all members of that industry but membership may or may not be voluntary. Some Grower Clubs have an open membership policy but the legal ties that bind them are significantly tighter than for Industry Associations. Further, in many associations a grower may by nature be deemed a member of an association by the fact that he is a producer of that commodity, but may not be active in the achievement of the goals of that organisation (it should be pointed out though that there are very few, if any, Grower Clubs or groups centred or focussed on commodities).

For instance in Australia, a cucumber grower in South Australia is, due to the fact that he is a vegetable grower, a member of the Australian Vegetable and Potatoes Growers Federation. That grower has the right to vote on industry matters and contributes to industry activities through the payment of a compulsory levy. Conversely, a grower of mangoes from North Queensland, may choose to be a member of the Australian Mango Industry Association or not, depending on their views about the worth of being a member.

Australian Grower Clubs are generally regarded as a relatively new phenomenon in Australia. Industry observers however see them as one way that growers and others in the supply chain can achieve improved results from the commercialisation of IP associated with new cultivars and varieties.

This section on South African Grower Clubs will firstly discuss from a historical perspective their emergence in South Africa, the various types of GC's that exist, how each may operate, how they are funded and possibly most importantly how GC's have been used to commercialise new IP in that country. Finally, the last section will discuss critical success factors and failure factors associated with GC's and some of the key benefits that they have presented to those who participate in them.

BACKGROUND

Grower Clubs in South Africa are generally formed to address issues or exploit commercial opportunities in the horticultural chain. The activities which may catalyse their formation include:

- Coordination of R&D Activities.
- Marketing of Produce
- Promotion of varieties
- Technical excellence
- Collective buying power (packaging, reduced freight etc.)
- Market Access
- Benchmarking
- Commercialisation of PBR / Intellectual Property.

Each Grower Club may be formed to undertake a single one of the above activities or a combination. In a number of instances activities evolve over time, that is, they may form for the purposes of undertaking one activity, e.g. benchmarking and then move to Product Marketing and Promotion.

RESEARCH AND DEVELOPMENT ACTIVITIES

The facilitation and co-ordination of research and development (R&D) activities is seen as one of the major drivers for the establishment of Grower Clubs in South Africa. Investment in R&D as part of a Club can occur for a number of reasons including:

- There is a perception of market failure in that the South African government will not readily provide funds for research into an area that is not high on their own priority list.
- The issue being researched is only relevant to a very few growers.
- Club growers perceive that by investing into this research they can either get a production or product quality advantage over other growers.
- Where commercialisation of IP is the driver and testing is required, the Club growers will be prepared to invest the funds necessary to evaluate the varieties generally only if they will get an advantage through a period of exclusivity to benefit commercially.

Grower Clubs invest in the 'full range' of R&D associated with horticultural production enterprises. These include:

- 'inside the farm gate' activities, e.g. development of disease resistance, improved varietal performance.
- 'postharvest' activities, e.g. improving storage characteristics, evaluation of a new postharvest chemical treatment.
- 'external to the farm gate' activities, e.g. undertaking research necessary to gain access to a new export market (this may involve aspects of (a) & (b)) as well.

South African Grower Clubs continue to believe that investing in research and development will become more of a focus for their organisations as the government continues to invest less funds on a per annum basis in these types of activities. Further, commercial organisations, e.g. seed companies, chemical companies, increasingly seek 'buy in' from growers in order to assess and test new products, services and varieties.

In Australia, industry would generally concur that greater 'self investment' in research and development will be required in the future as again government and associated commercial organisations seek to either decrease or jointly share risk through investment.

MARKETING OF PRODUCE

Yet another key activity undertaken by Grower Clubs in South Africa is the undertaking and / or facilitation of produce marketing originating from the group. The key drivers to the 'collective' marketing of produce is seen to be:

- Achievement of critical mass.
- Development of brands and trade marks and increased awareness of same.
- Increased market power. By having critical mass the Club has a perceived greater power in negotiating improved business terms with external marketers and other supply chain buyers.
- Uniformity of product standards through collective packaging (in certain instances).
- Economies of internal marketing operations.

Marketing of Produce: Grower Clubs may undertake a wide variety of roles in the marketing of produce from Growers Clubs. It is generally accepted that all produce is subject to controlled marketing. Some of the elements may include:

- The marketer may be an employee of the organisation. This marketer may then sell directly to end point customers, e.g. retailers. The Club then takes a marketing fee, which is a generally a percentage of the value of the sale. Sales returns are generally channelled through the Club and then to growers.
- The marketer may be an employee who coordinates the delivery of produce for on-marketing, e.g. wholesalers, brokers, exporters, based on these people having orders. The Club generally takes a set fee per unit. Sales returns may or may not be channelled through the Club and then to growers.
- The marketer may be an employee who administers the delivery of produce for on-marketing to a selected panel of domestic and export marketers.
- Where marketing is done by others in the chain, Grower Clubs generally maintain a tight control over who is permitted to market the product from the group. Often times there is a panel of marketers (export and domestic).who are appointed each year. Each marketer is generally selected following an interview process and compliance with key selection criteria established by the Club. Following the completion of each season, or in some instances weekly or monthly during the season, the marketer is required to provide information on key performance indicators, which is then evaluated against other marketers. Re-appointment of marketers is then done against performance.

Payment of Funds to Growers Clubs: Grower Clubs who market produce may receive funds in three different ways including:

- A set return per box paid by the grower and / or marketer.
- A percentage of the sale proceeds (predetermined) paid by the grower and / or marketer.
- Less often but a set return per box up to a certain price level and a percentage above this level, thereby providing incentive.

- Very occasionally, a set fee per year. This is only used where the marketer is internal to the Grower Club organisation.

Flow of Funds: Three models exist for the flow of funds from marketers to the growers. In the first model, up chain sellers of produce remit funds direct to the Grower Club who then after deducting for gazetted charges then remit these to the grower. In an another instance, up chain sellers of produce pay growers direct and growers then remit fees to the Growers Club. The last model involves a combination where growers are paid direct less appropriate fees which the Club members agree to and these fees are paid direct by the sellers of the produce. The later model is seen as preferable by many within the South African industry because:

- Growers receive their funds in the quickest possible time frame. That is, there is no lag caused by 'on payment' from the Growers Club.
- The Growers Club is assured of receiving payment in that growers do not withhold payment to the Club.
- Both the Grower and Growers Club receive the pricing information.

Pooling of Returns: As is the case with Australian co-operatives, Grower Clubs in South Africa frequently pool the returns (and in some instances the costs) from members of the Club. In most cases, pooling only occurs on a container basis, i.e. only the owners that shared a specific container are pooled. In some cases there are country pools where growers share costs, downsides and income on a per country basis. The pooling is usually a function of the volume of fruit and the relative sophistication of the tracking system available in the export chain. The more sophisticated the tracking system the less pooling occurs.

It appears that South Africans are generally more comfortable with the concept of pooling than Australian growers. Australian growers argue pooling may not work because:

- Good quality growers subsidise poorer quality growers.
- Some growers believe they can do a better job of marketing produce than the marketers involved in the pooling.
- Since produce is generally 'compulsorily' acquired, growers freedom of choice to 'direct' produce is lost, which may not suit certain growers, generally for the fact that traditionally they have marketed their own produce.

PROMOTION OF VARIETIES

In South Africa similarly to Australia, Industry Organisations are generally those which undertake promotional activities on behalf of that product. For instance, the Australian Citrus Growers is the industry representative organisation that is responsible for promoting consumption of citrus domestically and in export markets[22]. Again in Australia, these industry organisations may work across a number of product groupings, for example Ausveg and the vegetable industry. Across product grouping promotions in South Africa is rare.

Due to the nature of these industry organisations, no specific brands, individual or collective of growers is permitted to be seen as a beneficiary over another in promotional activities.

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[22] Australian Citrus Growers. 2006. http://www.australiancitrusgrowers.com/aspdev/about/about.asp. 19 September, 2006.

Where a Growers Club is formed around a particular variety or grouping of varieties which the members believe have certain attributes superior to the rest of the industry, the Club may decide to raise funds independently of the industry organisation and promote that variety (or grouping of).

In order to ensure that the Growers Club is able to benefit from its promotional activities on an ongoing basis consumers must be able to identify that product at the store level. This is most frequently achieved by 'stickering' fruit from the Growers Club. Naturally, these stickers must associate a visual point of difference with that product, whereby consumers (or other up-chain buyers) are able to identify product as being derived from the Growers Club. In some instances, promotional material is used as the identifier although this doesn't achieve the long term recognition benefits of stickers. Further, some groupings may use packaging material as the identifier although this identification is lost if the product is unpacked from the box / tray. Products such as strawberries are still able to benefit from this packaging identifier process.

Source of Funds: Promotional levies are generally raised on the basis of a per unit cost per carton or hectare. The rate may differ across grades of produce and whether the product is exported or sold domestically.

Again similarly to the collection of Marketing returns, promotional levies can either be remitted to the Growers Club directly by marketers or by growers, or deducted from growers returns as the marketing returns go through the Club.

It is the experience of South African Growers Club and similarly in Australia, that the more ideal system for collection of promotional funds is where the grower is not relied upon to remit the funds to the Club. Historically, some growers have been reluctant to pay promotional funds as they do not necessarily see 'direct' or 'tangible' benefit from the activity.

MARKET ACCESS

Horticultural producers in many countries, faced with overproduction in their own domestic economy have increasingly been urged and have sought to increase the volume and percentage of the product that they export overseas. Negotiating access to overseas markets is done at a 'government-to-government level' and so this has placed increased pressure on government agencies who have access to less and less funds on an annual basis.

In Australia, the Horticultural Market Access Committee (HMAC) is charged with the responsibility of gaining access to overseas markets. HMAC's charter is as follows:

> *"Horticultural Market Access Committee (HMAC) is a committee which holds responsibilities on behalf of the Australian horticultural industry to consider, prioritise, promote and communicate all market access issues which are of industry significance. The committee undertakes these responsibilities under arrangements and in consultation with industry associations and their members, government agencies, the research community and others who are involved and instrumental in achieving market access outcomes. This broad definition of market access covers phytosanitary (quarantine), sanitary (contaminants, e.g. pesticides) and non-quarantine (e.g. exclusion, duties, quotas, tariffs, licences) requirements which need to be addressed through the established channels for authorising or improving access".*[23]

[23]Horticultural Market Access Committee. http://www.horticulture.com.au/export/hmac.asp. 15 September, 2006.

A key word in the dissertation on HMAC is "prioritise". Due to the lack of resources of many government agencies it is not possible for HMAC to progress in a timely matter (as considered by many producer associations), all applications made by producers/producer groups for having access negotiated with export markets. The HMAC committee applies a set of criteria to each application which then results in a priority ranking being applied. In general terms, those applications that show a greater economic benefit to Australia than others receive a higher priority ranking.

Similarly in South Africa the National Department of Plant and Quality Control of the South African Department of Agriculture (SANDA) is charged with the responsibility of negotiating and prioritising export for South African horticultural products. These negotiations would take place in cooperation with the representatives of the Growers Association (such as the Citrus Growers Association in the case of citrus) and the Department of Agriculture.

In order to expedite Market Access applications a number of Grower Clubs in South Africa have negotiated with SANDA to invest in and in some instances complete sections of the R&D required prior to an importing country permitting access to a certain product. Whilst this type of activity can occur on an industry basis, a number of South African industry organisations prefer not to invest in expediting market access issues. This is because growers generally believe this is the responsibility of government agencies and secondly, that there are too many people who benefit who do not contribute to the outcomes.

However, as in Australia, the South African government is increasingly saying to industry that if they do not contribute at least part of the cost of achieving overseas market access, that industry (or product) will receive a lower priority rating.

Especially where is there is compulsory membership, some control on marketing and a strong need to develop export markets, Grower Clubs in South Africa will either contribute financially and / or in-kind in supporting government agencies negotiating access to markets 'of choice'.

Source of Funds: Generally where Grower Clubs support Market Access development programs funding is allocated on a project-by-project basis. That is, if a South African Growers Club wishes to negotiate access to Japan, that Grower Club may raise funds for that project specifically.

That said, there are a number of mechanisms whereby Growers Club's raise funds for Market Access Activities. These include:

- Direct from Growers Club General Reserves, which are contributed to on a per unit or percentage of sales basis.
- Establishment of a Loan Account, whereby growers contribute on a per unit or percentage of sales basis until the total cost of the market access research is completed.
- One off Grower Club contribution, which can / could be based on a per hectare, number of trees or total production basis.

In South Africa the issue of 'free riders' has been of concern to a number of Grower Clubs in respect of the benefits associated with gaining access to international markets. 'Free Riders' refer to parties who benefit from activities funded by others. In the case of Market Access, Grower Clubs are only generally able to negotiate 'product specific' (e.g. Mandarin), rather than 'varietal specific' (e.g. Honey Murcott) access. Therefore a Grower Club who invests in Market Access may not be able to capture the benefit of this investment. Further, growers who subsequently join a Growers Club may also get the benefit of previously invested research. In part the latter issue has been addressed by having 'Johnny come lately' growers pay higher costs of entry or levy.

BENCHMARKING

In an evolutionary sense a number of South African Growers Club came into existence on the back of growers 'coming together' to share information on variety of subjects, including base line costs of production data, growing information, market returns (less so) and gross margins (less so). This nature of 'sharing information' is largely foreign to Australian producers but is seen by many as the most useful initial mechanism in starting to bring growers together for their benefit.

In other instances the initiator of bringing growers to benchmark their activities is from within others in the supply chain. For instance, seed companies, chemical companies or marketers may also be the initiators of such research. The aim of benchmarking exercises is the sharing of information between members to improve their overall production and economic performance.

GROWER CLUB STRUCTURING

In South Africa, Grower Clubs tend to be structured within three legal frameworks: producer co-operatives, proprietary limited companies, and incorporated associations. These structures are described below in further detail:

1. PRODUCER CO-OPERATIVES

In Australia, an agricultural is defined as "*an association of primary producers who have come together to achieve common commercial objectives more successfully than they could as individual businesses. These objectives all relate fundamentally to the continuance and improved profitability of members' farm enterprises*".[24]

Producer Co-operatives operate in a similar manner to that in South Africa, although there are variations in the legal framework under which they operate. In Australia

"Co-operatives can be classified by the way they are incorporated. Most co-operatives, are incorporated under Co-operatives Acts, which are administered by Australian State or Territory Governments.

A few general co-operatives are incorporated as companies under Corporations Law, including some producer co-operatives. These Corporations have structured themselves internally as co-operatives and qualify as such for taxation purposes. The Income Tax Assessment Act 1936 defines a co-operative as a company, which deals more than ninety per cent of the total value of business transactions with its members. Co-operative companies that meet the criteria in the Tax Act are subject to alternative tax rules to those applying to other companies generally".[25]

In terms of horticultural co-operatives, a number of key types exist. These include:

- Input co-operatives. Where growers effectively act as a buying group for inputs.
- Packing co-operatives. Where pack- or processing-houses or similar are co-invested in so as to provide services to its members.

[24] Australian Co-operative Links. http://www.coopdevelopment.org.au/aglinks.html. 12 September, 2006.
[25] Australian Centre for Co-operative Research & Development. http://www.accord.org.au/social/ faq.html. 12 September, 2006.

- Marketing co-operatives. Where growers market their produce (generally in uniform packaging) as a group so as to provide for longer lines of uniform packaged product, possibly over an extended period of supply.

In Australia, the formation of co-operatives tends to be on the wane for a number of reasons. These include:

- By law, more than 90 per cent of all transactions must be within its own membership.
- There are legislated limits on the dividends which are payable to their shareholders and profits must be distributed via rebates or bonuses. By having this legislation the flexibility associated with re-investment of capital and business development programs can be compromised if not all members wish to proceed.
- Co-operatives require a high degree of commitment from its membership.[26]
- Growers often fail in their roles as executives and the board of the cooperative may involve growers in conflicts of interest.
- Voting power generally revolves around a one vote per member process which may disenfranchise larger growers as they only have the same rights as very small growers.
- Non-participatory shareholders are not permitted, thereby the external raising of capital is a limitation.

2. PROPRIETARY LIMITED COMPANIES

In South Africa, the most common form of legal entity used by Grower Clubs are Proprietary Limited (PTY LTD) companies. Again, the legal framework associated with PTY LTD companies is similar between the two countries, although reference should be made to the Australian Securities and Investment Commission's website (www.asic.gov.au) for comprehensive details of the process to register PTY LTD companies in Australia and the legal responsibilities associated with their formation on office-bearers.

Grower Clubs in South Africa prefer the formation of PTY LTD companies over other structures because:

- Through the Articles and Memorandum's of Association legally enforceable behaviour of its membership can be enacted. That is, in becoming a member the party agrees to a rules that are legally enforceable if breached.
- Members of the Growers Club are able to define the key areas of responsibility, actions and consequences of breach through the establishment of the above in addition to any contracts that are established between the Growers Club and others.
- Voting and therefore decision-making power can be flexible depending on the level of investment of various parties or other criteria.
- Profits do not have to be distributed to its shareholders each year therefore providing for greater flexibility in terms of dividend reinvestment.
- Capital raising from external sources, e.g. banking institutions, is more attractive.

3. INCORPORATED ASSOCIATIONS

There is a concerted move away from the formation of Incorporated Associations in South Africa. For example, a recent legal precedent in South Africa which involved the Association of Shop Keepers, resulted in members of

[26] The Australian New Crops Newsletter. http://www.newcrops.uq.edu.au/newslett/ncnl127a.htm. July, 1999.

their own association not being able to be compelled by the industry organisation to comply with their own regulations. It is important to have absolute inclusive regulation by all members of a company structure in order for the Grower Group to function on the long term. Growers are not naturally inclined to necessarily work together – the binding nature of the agreements require each shareholder to work together as there is no other option.

ADMINISTRATION AND FIDUCIARY RESPONSIBILITIES

Any Grower Club in South Africa, no matter the structure, co-operative, proprietary limited company or industry association must undertake certain administrative and fiduciary responsibilities.

There is a wide variation with respect to who undertakes these activities, whether they are externally sourced or undertaken in-house. In South Africa, the general smaller organisations tend to undertake in-house. This has and does cause issues on occasion as office-bearers may not have the necessary skills to complete the responsibilities they have undertaken. Further, in-house office bearers are generally responsible for other tasks including running their own business or working for others and so the timeliness of actions often becomes an issue. Particularly, in respect of producer-operated entities, office bearers are often regarded with suspicion that they are operating for mutual benefit. Lastly, where there is a strong 'inner core' of personnel who continually contribute, this will over time result in resentment by this group towards those who 'sit on the sidelines' and do little.

Again, it is strongly recommended that where the formation of legal entities is proposed that reference is made to appropriate advice from accountants and solicitors. Reference should also be made to the Australian Securities and Investments Commission website, www.asic.gov.au.

BLACK ECONOMIC EMPOWERMENT

Whilst the concept of Black Economic Empowerment (BEE) has no direct relevance to the formation of Grower Clubs in South Africa, its emergence has impacted significantly on their activities in that country and so an understanding of BEE is considered important for the reader.

Following the end of apartheid in 1994 and with the advent of majority rule by black South Africans, the newly elected government introduced into legislation the BEE. The broad aim of the policy is to seek transformation of the business makeup of the economy so that black South Africans own a proportional share of all of the business enterprises within that economy. To achieve this, the government has set targets for a percentage of black ownership in all companies in specifically for the agricultural sector in South Africa. In the respect of organisations connected with horticulture, the generally accepted target is 26% black ownership.

The target that Grower Clubs have embraced is to achieve a minimum of 30% by 2013 when the BEE agricultural Charter will be required to be enacted.

Growers have enthusiastically accepted the Charter and a high percentage of farmers have formed partnerships with their longstanding employees in order to access new varieties under Grower Club production.

FUNDING MECHANISMS

South African Growers Clubs are funded under a variety of mechanisms. Each mechanism is formulated based on the original objectives of the Club. In general, as with similar types of horticultural organisations in Australia, Grower Clubs are underfunded in respect of achieving all of the objectives they seek to achieve.

The variety of funding mechanisms used by Growers Clubs in South Africa include:

a. Entrance Fees. A prospective member pays a fee on entry to the Club. This fee can vary depending on when the grower enters, with the Grower Club generally charging those growers who come later a higher fee to compensate the costs carried by the founding and subsequent members. This fee is a once-only. There is a wide variety of Growers Clubs who charge a fee on entry.

b. Annual Memberships. Annual memberships may be charged as a flat fee or based on sliding scale depending on the quantity of service that is required (or anticipated to be required). This type of fee is most common to Growers Clubs which tend to focus on information exchange types of activities. Some Grower Clubs have found issues with obtaining recurrent fees from some growers, in most instance due to the fact that growers may perceive limited value in the services or activities provided by the Club.

   In other instances, annual memberships can be based on numbers of hectares or numbers of trees planted. In these instances, the payment of the annual membership is compulsory and unlikely not to be paid because contractually growers will be in breach which may have impacts on whether or not those growers still have the legal right to ownership of those trees.

c. Levies. Levies can be paid by growers based on a variety of mechanisms. These include:

   i. Rate per carton (applicable to Grower Clubs who undertake marketing)
   ii. Rate per hectare
   iii. Rate per numbers of trees
   iv. Rate per dollar return (applicable to Grower Clubs who undertake marketing).

d. Revolving Levy System. It is frequently the case that growers who are new entrants to industries have significant difficulties with cash flows as they seek to establish the enterprise. This is particularly the case where there are long lead time crops i.e. Tree crops. In other instances the benefits of the activity/ies to be funded have a long lead time, i.e. market access. In these instances, in South Africa, the Grower Clubs may establish revolving levy system whereby growers record a loan account to the Growers Club and repay the Club on a pre-agreed basis using the mechanisms discussed in (c).

e. Tree or Hectarage Royalties. Where Growers Clubs are associated with PBR protected varieties, Grower Clubs may be responsible for the collection of tree or hectarage royalties on behalf of commercialisers or if they are the commercialising entity themselves. In South Africa in the past, in order to gain access to the PBR, growers often paid a per tree or hectarage royalty based on the tree numbers purchased or area planted. In general, this is a 'once only' charge and so in respect of commercialisers is a relatively narrow revenue base for those parties who expend funds on the development of the PBR and the commercialisers of same.

f. Production Royalties. An increasingly popular method of generating funding for Growers Clubs and commercialisers of PBR is to charge growers production royalties. This is generally done on a per unit basis and may or may not include all grades produced (for example, 1st, 2nd and processing grade). Collection generally occurs from marketers and the Growers Club retains its share. Alternatively, growers may remit funds on a cyclical basis following production.

g. Marketing Royalties. Similarly to (f) and also an increasingly popular method by Grower Clubs and commecialisers of PBR is to charge growers royalties based on a pre-agreed percentage of the sales return received from the PBR protected material.

In respect of items (e), (f) and (g) these are discussed in considerably more detail in each of the other case studies discussed in this report.

COMMERCIALISATION OF INTELLECTUAL PROPERTY

So what is the relevance / linkage in the formation of Grower Clubs in South Africa and the commercialisation of intellectual property, the subject of this study?

Commercialisers of intellectual property, plant breeders (who may also be commercialisers) and indeed Grower Clubs themselves, have seen the benefit that a Grower Club may in fact offer to the orderly adoption of IP or its more sustainable use. In the past in South Africa there have been identified a number of inherent weaknesses to the open or laissez faire attitude to the commercialisation of IP. These weaknesses have been described as:

a. There is limited long-term benefit in investing in new varieties particularly where there are new technologies to be developed as the benefits over time are available to all. In other words the concept of the 'free rider principle' applies unless a grower or group of same has some protection or period of exclusivity.

b. By not permitting 'first movers' to have a sustainable point of advantage for an acceptable period the industry tends to move towards the same or similar cost and returns plane.

c. By not having an ability to control production through the controlled release of IP, overproduction frequently results which is to the economic disadvantage of all.

d. Breeders or external commercialisers without having the control of a Growers Club may not be able to effectively collect royalties / levies (ie. 'remuneration for effort').

e. Orderly marketing and commercial build-up of new varieties does allow first movers to manage price movements for the product.

f. Grower clubs will allow national unity across a wide range of ripening times which previously would not have existed.

g. International cooperation between countries through an Internal Variety Alliance will allow countries who would previously have regarded each others activities as competitive to work together to maintain year-round supply.

BENEFITS OF GROWER CLUBS TO COMMERCIALISERS

The formation of Growers Clubs in South Africa has been shown to benefit a wide variety of aims of Grower Clubs in South Africa. A summary of the benefits of Grower Clubs to its members and others in the supply chain, including commercialisers of IP can be summarised as:

POTENTIAL BENEFITS OF GROWER CLUBS

- ✓ Prevention of over planting of varieties;
- ✓ Maintain medium and long-term farming sustainability through controlled marketing giving more sustainable returns;
- ✓ Unite growers across a wide area of the country and internationally through sharing of information;
- ✓ Plantings planned to fill the shelf (that is achieve all year round production where possible);
- ✓ Create technical excellence as a result of benchmarking and technical exchange for pre-harvest, post-harvest and in-transport storage techniques;

- ✓ Develop brand confidence through product and promotional/brand uniformity;
- ✓ Market intelligence – growers manage on the basis of facts and not rumours.
- ✓ No pooling – individual growers rewarded for excellence;
- ✓ Have a Board of Directors who collectively make decisions on production and marketing;
- ✓ Achieve greater economies of scale for promotion of the seedless lines;
- ✓ Permits export line extensions through coordinated global marketing and promotion;
- ✓ Allow growers greater control of the cost chain;
- ✓ Growers determine the best marketing options;
- ✓ Participation in international varietal promotion; and
- ✓ Provides access through existing market channels.

CHALLENGES TO MODEL ADOPTION IN AUSTRALIA

Examples of Growers Club formation in Australia are limited. When questioned why this might be the case contributors from South Africa made the following observations:

a. Growers generally have a history of working more closely together than in Australia. This is in part due to the minority nature of the white population in South Africa generating a greater need to 'band together'. In Australia, there is an apparent lower level of trust in evidence between many members of the growing community and so therefore less preparedness to work together.

b. Generally closer ties between research agencies and growers generating more commercially focused research.

c. Up until the last decade a greater level of investment in R&D by government agencies.

d. Up until recently, a greater incidence of 'controlled marketing' of produce in South Africa and so having growers more attuned to group marketing and activities in general.

e. Australian growers low level of investment in R&D activities.

f. Low levels of compulsory levy payment in Australian compared to South Africa.

g. Greater desire to be unregulated in Australia compared to South Africa.

h. Past experience whereby there is limited integration between each element of the supply chain and a preference to go 'it alone'. South Africans comment that this may be due to a greater predominance of Anglo-Saxon roots.

Pink Lady™ / Cripps Pink Apples

ABSTRACT

Pink Lady™ is arguably the world's premium apple. Pink Lady™ is a brand of Cripps Pink variety apples. Cripps Pink apples of an appropriate quality may be sold under licence in territories where the trademark is registered using the trade marked brand name Pink Lady™. The development and application of trade marks to apple varieties was a unique and ground breaking approach to the commercialisation of new apple varieties at the time. The variety Cripps Pink is protected by Plant Breeders Rights in several jurisdictions and the Pink Lady™ brand is protected through trade mark registration in many countries which allows considerable control to be exercised over the production and marketing of the fruit. By integrating quality assurance, promotion and marketing into local and overseas propagation and production licences, Pink Lady™ has maintained the position as one of the highest priced apples in the key European and North American markets for more than a decade. This has rejuvenated the local apple industry and generated significant intellectual property royalties for the licensors.

BACKGROUND

The Cripps Pink apple variety was bred in 1973 by John Cripps, an employee of the Department of Agriculture Western Australia (now the Department of Agriculture and Food). The breeder crossed the Australian apple variety Lady Williams with Golden Delicious in order to combine the best features of both apples. It was planted out as a seedling at the Stoneville Research Station in 1974. The apple has a distinctive pink blush mixed with a green background and has a firm crisp texture with a balanced sweet / tart flavour.

The Cripps Pink and Cripps Red apple varieties were developed to assist local industry to expand its export market and improve profitability. Since 1994 the Cripps Pink and Cripps Red apple varieties have earned the Western Australian Government sufficient revenue in tree sale royalties from outside of Australia to fund the ongoing breeding program. Cripps Pink was developed for the benefit of the greater Australian apple industry and was not subsequently PBR or trade mark protected in Australia. The Department decided not to pursue protection under the *Plant Variety Rights* legislation (as it was at the time) in Australia, but proceeded to apply for protection around the world.

AUSTRALIAN INDUSTRY

In world terms, Australia is a relatively small producer of apples, ranked 37th in 2004[27]. China is clearly the dominant producer in volume terms with over 23 million tonnes of fruit grown in 2004. The United States was the second largest producer of apples in the same year with 4.7 million tonnes.

Apples are grown commercially in all Australian states, but not the Northern Territory. Stanthorpe on the border of Queensland and New South Wales is the most northern large-scale production centre for apples in the country. In 2004, national production totalled 255,000 tonnes down significantly on the back of variable Victoria production.

[27] FAOSTAT. 2006. FAOSTAT. http://faostat.fao.org. Viewed 18 September 2006.

This figure was expected to rebound in 2005 to around 340,000 tonnes forecast. The farmgate value of apples was $289 million in 2001/02, with 7.1 million productive trees aged six years or over[28].

Granny Smith, Red Delicious and Cripps Pink (Pink Lady™) represented over 60 per cent of production in 2004. Both Granny Smith and Red Delicious however have been in decline as the top two varieties, but Granny Smith is expected to stabilise as new plantings come into production.

Table 6: Australia – Apple Plantings by Variety and State, 2004 ('000)

Apple Trees ('000)	NSW	VIC	QLD	SA	WA	TAS	Total
Bonza	47	17	0	8	0	1	73
Braeburn	90	7	14	10	0	27	148
Golden delicious	12	227	18	77	27	126	487
Fuji	299	269	51	170	95	281	1,165
Gala (Royal and Imperial)	382	538	255	262	173	213	1,823
Granny Smith	144	565	183	97	169	23	1,181
Jonagold	17	20	12	5	0	109	163
Jonathan	23	41	13	28	12	4	121
Lady Williams	17	18	3	11	48	0	97
Cripps Pink (Pink Lady™)	324	981	158	438	351	99	2,351
Cripps Red (Sundowner ®)	90	376	45	105	114	76	806
Block & Striped Red Delicious	622	281	259	137	66	359	1724
All other apples - early	10	26	24	9	6	13	88
All other apples - late	23	57	8	7	4	67	166
Total apples	2,100	3,423	1,043	1,364	1,065	1,397	10,392

Source: APAL

Available from mid-April through until the end of January, Cripps Pink accounted for 43,106 tonnes of fruit in 2001/02. A more recent end-2004 figure from APAL put total tree plantings of Cripps Pink at 2.35 million, the most of any apple variety in Australia (see Table 6). Victoria dominated Australian production of Cripps Pink with just under 1 million trees, with South Australia accounting for 438,000 plantings, Western Australia 351,000 and NSW 324,000. Queensland and Tasmania had relatively small plantings of Cripps Pink with 158,000 and 99,000 apple trees in 2004.

Cripps Pink dominates all plantings (see Table 7) and especially new plantings. Gala is consolidating its position as the second mostly widely planted variety. Red Delicious remains a major variety, but few new plantings are occurring.

[28] HAL. 2004. The Australian Horticulture Statistics Handbook 2004. Horticulture Australia Limited. Sydney. p16

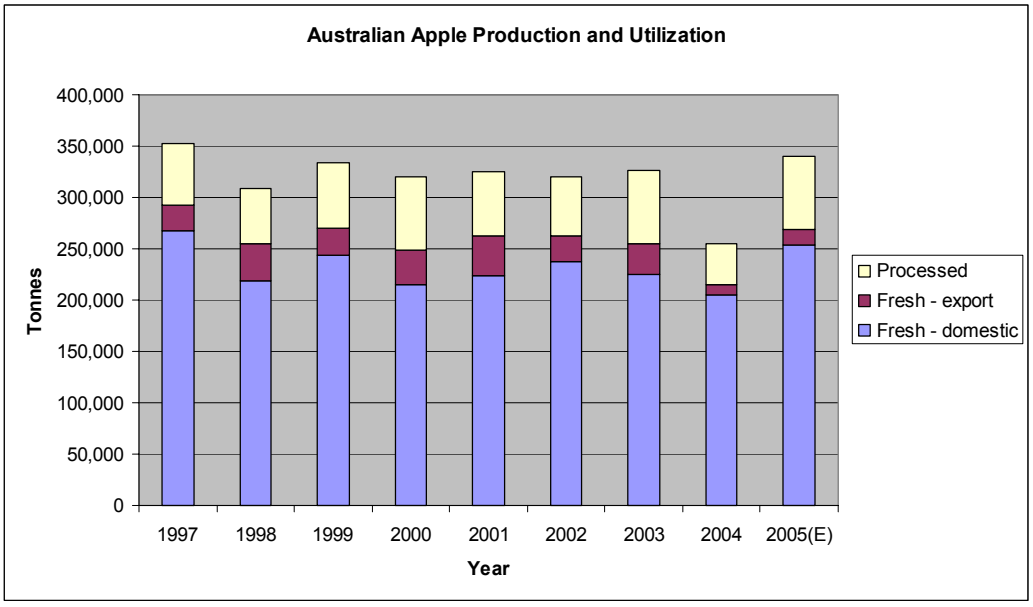
Table 7: Australia – Major Apple Varieties (end-2004)

Variety	% of all plantings	% of plantings < 6 years
Cripps Pink (Pink Lady™)	23	29
Gala	18	16
Delicious	17	3
Fuji	11	11
Granny Smith	11	7
Cripps Red (Sundowner®)	8	10
% of TOTAL plantings	88	76

Source: APAL

As the following chart shows, the overall utilisation spread of Australian apples has remained relatively static since 1997. Domestic fresh consumption in Australia ranged from 205,238 tonnes (2004) to 267,516 tonnes in 1997. Processing (juice, pie apple etc) consumes a significant volume, ranging from 15 to 22 per cent annually between 1997 and 2004.

Figure 7: Australia – Apple Production and Utilization, 1997-2005(E)



Source: APAL, 2004

Prior to 2004 (when exports declined to 10,215 tonnes), exports ranged between 25,000 and 38,500 tonnes. Major export markets include the Asian sub-continent, Malaysia, Singapore, Indonesia, Taiwan and the United Kingdom. According to AFFCO, average annual shipments of Pink Lady™ to the United Kingdom in recent years have totalled approximately 2,400 tonnes or 200,000 x 12kg cartons[29].

[29] Lawrenson, J. 2006 pers. comm.

INTELLECTUAL PROPERTY

CRIPPS PINK VARIETY

The mechanisms used to protect the intellectual property for the Cripps Pink variety and the Pink Lady™ brand are different. The Department of Agriculture Western Australia owns the Cripps Pink variety and holds individual licence agreements with selected organisations in key countries which manage the Plant Breeders' Rights on behalf of the Department. Plant Breeders' Rights have been successfully applied for and granted in jurisdictions where that applies, whilst a plant patent has been granted in the United States (there is no PBR in the US).

As mentioned previously, Cripps Pink was developed for the benefit of the greater Australian apple industry and was not subsequently PBR or trade mark protected in Australia. The Department decided not to pursue protection under the *Plant Variety Rights* legislation (as it was at the time) in Australia, but proceeded to apply for protection around the world.

The Department through its nurserymen licensees sell Cripps Pink trees. The licensed nurserymen can sub-license the rights to other nurseries. Royalties are reported on and paid annually to the Department. Licensees keep records of tree sales in their territories and actively monitor these to ensure plantings are authorised. They also publicise the fact that the variety is protected and the need to respect this protection.

PINK LADY™ TRADE MARK

Whilst the Cripps Pink variety itself is not trade marked, fruit of the variety that meets specifications can be trade marked under licence.

The Pink Lady™ story revolves around its success as a trade marked brand internationally. The Pink Lady™ trade mark is one of the great success stories of the fruit industry and a pioneer in fruit branding. Applied originally to apples of the Cripps Pink variety, the Pink Lady™ trade mark and the associated Flowing Heart™ logo are now used under licence across four continents on a range of food products.

In the same way as Granny Smith, Braeburn, Cox, Golden Delicious and Gala are publicly available varieties, the Cripps Pink variety is not a PBR protected variety in Australia and cannot be trade marked as Cripps Pink. This creates a commercial growing environment whereby in Australia any nurseryman or grower can propagate Cripps Pink trees and any grower can sell the fruit. In such an environment, the variety can become commoditised and suffer from price and supply pressures, however it should be noted the apple remains as a premium product in Australia because of its excellent visual and eating qualities.

The Pink Lady™ was an attempt to break out of this trap[30]. The Cripps Pink variety name itself was never planned to be trade marked. In order to establish a point of difference in the market, Cripps Pink growers in conjunction with the Department of Agriculture Western Australia registered the Pink Lady™ trade mark across multiple classes of products. This situation was reviewed some time later and it was decided that the commercial management of the Pink Lady™ trade mark was not the core business of a state government department. In 1998, with the support of the Western Australian Fruit Growers Association, the Department of Agriculture Western Australia assigned ownership of the Pink Lady™ trade mark everywhere that it had registered the trade mark (the majority of apple producing countries) to Apple and Pear Australia Limited (APAL). An associated Flowing Heart™ device is also trade marked and under the ownership of APAL.

[30] Gapper, J. 2004. 'Pink Lady™ in brand new fight'. The Australian. 21 September.

APAL is the peak industry body representing commercial apple and pear growers in Australia. APAL has, as one of its key business activities, the responsibility of managing the trade marks for Pink Lady™ and Sundowner™ apples and associated products in the majority of countries around the world where the trade marks are registered[31].

In countries where the trademarks are registered, apples sold under the Pink Lady™ and Flowing Heart™ trademarks must meet stringent and specific standards (see below). The trademarks can be used only under license. APAL has licensed users of the trademarks in major producing countries and in the principal markets for the Pink Lady™ products. Licensees are charged fees, which cover management of the trademarks - including auditing of fruit quality, branding, marketing and protecting the trademarks against illegal use.

COMMERCIALISATION

The commercialisation strategy of the Pink Lady™ brand of Cripps Pink is closely associated with the development and protection of the intellectual property associated with the apple variety itself by the Western Australian government. This section examines the elements of commercialisation strategies and challenges along the way of both the base variety and the Pink Lady™ brand.

QUALITY STANDARDS

The Pink Lady™ trade mark was originally established for use on apples of the Cripps Pink variety that met specified quality standards. In order to preserve the premium appeal of Pink Lady™, about 65 per cent of the production which does not meet the standards required for Pink Lady™ is sold as Cripps Pink instead. The distinction is primarily made on colour intensity and the sugar/acid balance. The development and application of trade marks to apple varieties was a unique and ground breaking approach to the commercialisation of new apple varieties at the time. This created a mechanism for growers world wide to sell premium quality apples from the variety Cripps Pink at a premium price[32].

An International Pink Lady™ Alliance (see below) maintains an international packing and grading standard for product sold under the Pink Lady™ brand in all licensed markets. This does not include Australia where there are no PBR or trade marks currently in place, the result of which is a highly variable offering of Pink Lady™ branded fruit. The standards cover specifications and defect limits (tolerance levels) for the following, with stricter specifications for Australian export fruit to Continental Europe:

- Acid level
- Blemishes
- Bitterpit
- Brix
- Bruising
- Chemical burn
- Codling moth
- Cracks
- Core rot
- Decay
- Dirty fruit
- Low firmness
- Hail marks
- Insect damage, injuries and other disease
- Malformity
- Mixed cultivars
- Scald
- Greasiness
- Poor colour
- Starch breakdown
- Sunburn.

[31] http://www.apal.org.au/marketing/trade markManagement.htm
[32] http://www.apal.org.au/marketing/pdf/PinkLadybrochure.pdf

TARGET MARKETS

The Department of Agriculture's approach to targeting markets for the commercialisation of the Cripps Pink variety was a relatively simple and effective one. Plant Breeders Rights (or patents) and licensing agreements were sought in the majority of apple producing countries around the world. Within each market the Department has sought to partner with significant nurserymen in each territory where the variety has been released.

In terms of the Pink Lady™ brand, outside of Australia, the target market initially was the supermarkets in the United Kingdom. The rationale behind this decision was based around market intelligence, including the use of panel tasting, which identified the variety would suit consumer taste requirements. It was also felt that the discerning consumers of the United Kingdom market were better able to sustain premium pricing than its close European neighbours or Asian markets.

Export marketing efforts in the United Kingdom have particularly targeted young women and has resulted in Pink Lady™ apples being promoted in such unlikely settings as the Glastonbury music festival, as well as in women's magazines, and even cross-marketed with Barbie dolls. Behind the marketing is Coregeo Limited, a wholly-owned subsidiary of APAL operating in the United Kingdom and managing the trade marks Pink Lady® and Sundowner® apples in Europe. Coregeo is responsible for the development and implementation of appropriate and enforceable licences, through compliance supervision to the invoicing and collection of royalties and fees[33]. More publicly, Coregeo is respected internationally as trade marketers and consumer marketers, covering strategy development through to programme planning and execution.

PINK LADY™ AUSTRALIA

Pink Lady™ Australia (PLA) was established in 1999 with the aim of promoting Australian Pink Lady™ and Sundowner™ apples. It is a joint initiative of Australian Fresh Fruit Corporation (AFFCO) and Apple and Pear Australia (APAL) which is managed by AFFCO and responsible to a committee appointed annually by AFFCO and APAL.[34]

1. **Promotion:** PLA promotes Australian Pink Lady™ and Sundowner™ apples, grown in approximately 16 apple growing regions from the South West of Western Australia to the South of Tasmania. It uses funds from its growers, exporters and Horticulture Australia to carry out promotions. Promotions are organised in conjunction with the importers and retailers.

2. **Product coordination:** PLA coordinates the exports of Australian Pink Lady™ and Sundowner™ through the services of Des Muir, the market development manager and coordinator for AFFCO and Pink Lady™ Australia. This service aims to coordinate the movement of product so that the customers receive product when they want and in the right condition.

3. **Technical coordination:** PLA initiates technical research to improve the quality of Australian Pink Lady™ and Sundowner™ apples. An example of this has been the initiation of a major research project (jointly funded by PLA, APAL, HAL and international research agencies) into an occasional disorder called "internal browning"; this project has linked researchers in 4 different countries to better develop solutions which will ensure on-going consumer satisfaction.

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[33] Coregeo. 2006. Coregeo – About Us. http://www.coregeo.co.uk/vers05/about/index.htm. Visited 15 September 2006.
[34] Pink Lady Australia. 2006. Pink Lady Australia – who we are. http://www.pinkladyaustralia.com.au. Visited 15 September 2006.

4. **Communication:** PLA communicates its activities through:
   a) Personal market visits
   b) Regular e-mail updates
   c) A monthly column in the Tree Fruit Australia magazine
   d) Regional visits to each exporting region.

In countries where the trade marks are registered, apples sold under the Pink Lady™ and Flowing Heart™ trade marks must meet stringent and specific standards (see below). The trade marks can be used only under licence. APAL has licensed users of the trade marks in major producing countries and in the principal markets for the Pink Lady™ products. Licensees are charged fees, which cover management of the trade marks - including auditing of fruit quality, branding, marketing and protecting the trade marks against illegal use.

INTERNATIONAL PINK LADY™ ALLIANCE

As the prospects strengthened for trading apples under the Pink Lady™ trade mark, the Australian apple industry – with the support of the Department of Agriculture in Western Australia and the Federal Department of Agriculture – spearheaded the establishment of an international alliance of growers and marketers to protect the integrity of the quality standards associated with the Pink Lady™ trade marks. In September 1999 an International Pink Lady™ Alliance Agreement was ratified by APAL and the initial international licensees.

Almost two years later, in October 2001, the International Pink Lady™ Alliance Limited (IPLA) was established as a company under Corporations Law in Victoria, Australia. APAL along with the principal licensees and growers from Australia, Argentina, Chile, Europe, New Zealand, South Africa and the United States were the initial representatives on the International Pink Lady™ Alliance Limited (IPLA).

The primary objectives of the company are to[35]:

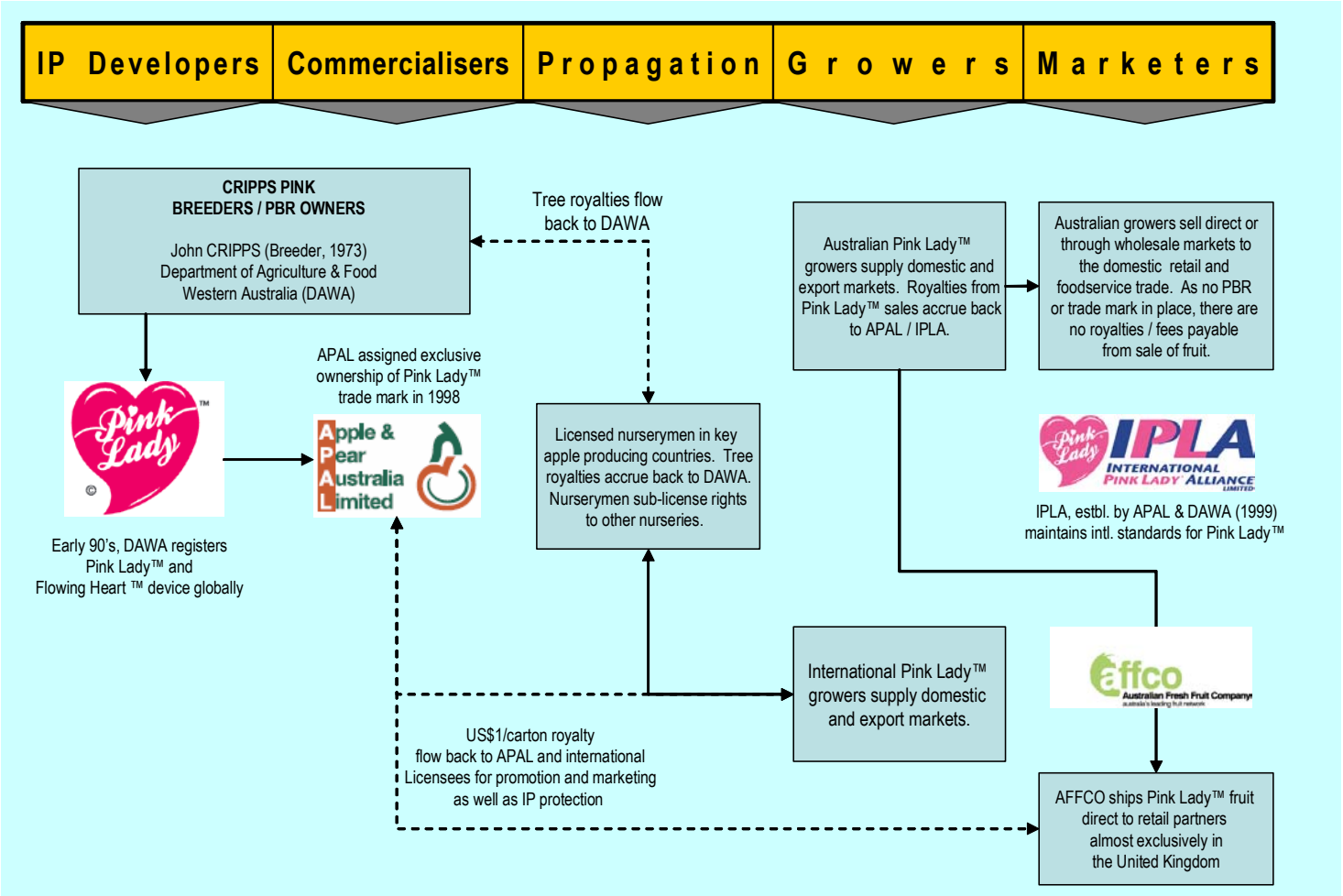
- Maintain consistent high quality standards for product sold internationally under the Pink Lady™ trade mark.
- To establish standards for a consistent advertising and marketing strategy for products sold under the trade mark.
- Where appropriate, to adopt a uniform and consistent packaging design in order to promote sales of product under the trade mark.

The company is run by a manager and a secretary located in South Africa who carry out functions determined by a five person Executive Committee elected from the company directors.

There are two Company Directors from each Alliance Country. One of these directors is appointed by the Master Licensee in that Country representing the variety and trade mark owners. In some countries where Pink Lady™ Growers / Marketing Associations exist the second director is appointed by these organisations.

[35] IPLA. 2006. International Pink Lady Alliance. www.pinkladyapples.com.

Figure 8: Pink Lady™ / Cripps Pink Apples Commercialisation Supply Chain



The Executive directors meet approximately monthly by teleconference to review and discuss business relating to the Company and its members. There is an Annual General Meeting held in October each year where policy matters and strategy are debated and their implementation agreed upon.

ROYALTY STREAMS

Royalty streams are derived separately for both the sales of Cripps Pink trees and the sale of Pink Lady™ fruit. The royalties generated from tree sales are directly invested back into apple breeding and development in Western Australia.

The global brand development and protection of the Pink Lady™ trade mark is funded through a royalty system. A royalty of US$1.00 per 12kg carton of apples was imposed to cover licensing and marketing costs[36]. According to AFFCO and APAL, US$0.65 of the royalty payment is allocated towards global branding and promotion, while 35 cents is distributed among the master licence holders in Australia and other countries for trademark protection activities as well as research and development for improvement of the apple variety.

SUPPLY CHAIN MANAGEMENT

Pink Lady's™ royalty structure sees the program continuously reinvesting in itself for the improvement of the variety and its supply chain. As an example of this, AFFCO, with support from HAL, undertook a fifteen-month project using point of sale market intelligence and product quality data to maximise returns for Pink Lady™ exports in 2002 and to develop a business plan for 2003-05. Funded by AFFCO, Pink Lady™ Australia and Horticulture Australia Ltd, the project developed a Business Plan with a goal of achieving the export of 500,000 cartons of Pink Lady™ apples and 100,000 cartons of Sundowner™ apples. This included aims of extending the current market window in the UK to include July and August, and continued efforts to develop successful markets in Europe (slightly lower specifications) and the USA (slightly larger fruit).

THIRD LINE FORCING

As in the case of Calypso™ and Superior Seedless®, Pink Lady™ Australia Limited took out a notification of Exclusive Dealing (Third Line Forcing) with the Australian Competition and Consumer Commission (ACCC). Third line forcing occurs when a supplier places a condition on the supply of its goods or services that the customer must acquire goods or services of a particular type from a third person nominated by the supplier. This practice is a form of exclusive dealing that is prohibited outright by section 47 of the Trade Practices Act.[37]

In July 2005, Pink Lady™ Australia lodged a notification (#N91844) to the ACCC in relation to a proposal to provide "services" to exporters of fresh apples of the varieties Cripps Pink and Cripps Red in association with the trade marks PINK LADY™ and SUNDOWNER™ respectively on condition they acquire a membership in the Australian Fresh Fruit Company Pty Ltd (AFFCO). Services outlined in the notification included coordinating the export of produce, export promotions, technical research to improve product quality, market feedback, and implementing quality controls.

Registering a notification with the ACCC describing this supply arrangement has allowed for statutory exemption from prosecution. While the ACCC may remove the immunity at any time, it must provide notice to the parties and have a pre-decision conference before removing that immunity.

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[36] Gapper, J. 2004. 'Pink Lady™ in brand new fight'. The Australian. 21 September.
[37] Commonwealth of Australia. 1998. Guide to authorisation and notification for third line forcing conduct. Canberra.

CRIPPS PINK COMMERCIALISATION

Underpinning the development and protection of the Pink Lady™ brand internationally has been the commercialisation of intellectual property associated with the base Cripps Pink variety. The commercial release of the Cripps Pink variety in the early 1990's posed a number of early challenges for the Western Australian Government. Due to limited experience with plant variety rights legislation at that time, uncertainty about industry acceptance and a desire to make the material publicly available, the Department of Agriculture did not apply for breeders' rights in Australia for the Cripps Pink variety. They did however proceed with protection in key countries around the world.

A table of current licence agreements in force between the Department of Agriculture and Food Western Australia and Master Licensees by territory is outlined below. In each jurisdiction, the royalty fees are different and subject to what is deemed appropriate and the market can withstand.

Table 8: Cripps Pink Master Licence Agreements

Territory	Master Licensee
Argentina	Los Alamos de Rosauer
Brazil and Uruguay	Frutirol Agricola Ltda
Chile	Viveros Requinoa
European Union	Starfruits
New Zealand	New Zealand Fruit Tree Company
South Africa	Topfruit (Pty) Ltd
United States of America	Brandts Fruit Trees

Source: IPLA

OUTCOMES

IP MANAGEMENT PERFORMANCE

According to a Western Australian Public Sector Performance Report from 1999[38], with the release of Cripps Pink the Department was suddenly faced with the need to deal with the new and burgeoning issue of IP and commercialisation. In some cases, events preceded the Department and it was not adequately prepared to deal with the exploitation of IP, resulting in some of the following situations:

- In Argentina, France, UK and the USA, other organisations successfully filed applications for the Pink Lady™ trade mark before the Department of Agriculture and Food. In all but the USA ownership of these trade marks has been recovered by negotiation with relevant parties.
- In 1998, the Department successfully defended its IP rights in legal action against an infringement of its Cripps Pink variety rights in the USA.
- The Department was unsuccessful in opposing a third party's application for Australian plant variety rights to the Pink Rose apple which the Western Australian Government maintains is identical to the Cripps Pink Variety. However the PBR grant for Pink Rose is no longer in existence in Australia and the application was refused in New Zealand.

[38] http://www.audit.wa.gov.au/reports/report99_07.pdf

Since 1994 however the Cripps Pink and Cripps Red apple varieties have earned the Western Australian Government sufficient revenue in tree sale royalties from outside of Australia to fund the ongoing breeding program.

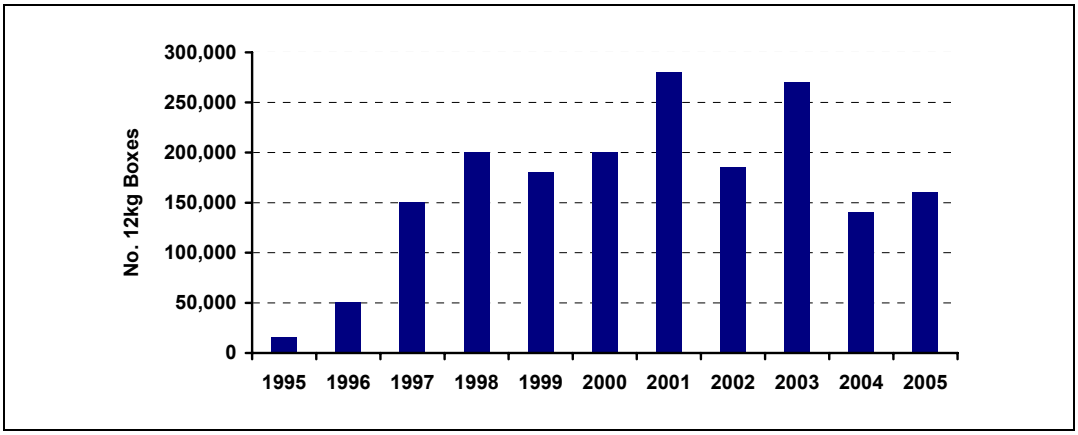
There have reportedly been various attempts at illegal propagation of trees where there is Plant Breeders' Rights or Plant Patent protection in place. These are monitored and addressed by the licensees in the relevant jurisdiction. The Department of Agriculture and Food Western Australia has learned many lessons from the Cripps Pink experience. These lessons have been and are being applied to the commercialisation of new varieties.

EXPORTS

Pink Lady™ exports from Australia consist almost exclusively of shipments to the United Kingdom, direct to retailers. Pink Lady™ is becoming particularly popular in the United Kingdom and had approximately 10 per cent of the market share in 2005. According to AFFCO, in 2006 shipments of Pink Lady™ to the United Kingdom are expected to exceed 200,000 x 12kg cartons or 2,400 tonnes[39].

The historical Pink Lady™ export market peaked for Australian shipments to the UK in 2001, with around 280,000 cartons shipped that year. Since then, exports have fallen off, particularly in 2004 when shipments fell to only 140,000 cases. According to an AFFCO representative, the slow down occurred for combination of issues – reasonably strong domestic market, low crop in some years and increasingly a concern amongst growers about the cost of auditing and compliance with Eurepgap, BRC and supermarkets' own programs such as Nature's Choice. At present AFFCO is working closely with its suppliers to engender a greater export culture amongst growers, which they see as particularly important should apple imports into Australia commence.

Figure 9: Australia – Pink Lady™ Exports to the United Kingdom 1999-2005 (12kg boxes)



Source: AFFCO, 2006

CHALLENGES TO COMMERCIALISATION

The retail-driven push towards Every Day Low Pricing (EDLP) policies and private labels has come at the expense of national brands across global retail markets. A recent example in the fresh produce sector involved Pink Lady™ apples. British retailer Asda downgraded the apple to a gap-filler in late 2004. Instead it was replaced with the generic Cripps Pink variety. At that time, one of Asda's fruit buyers commented that he would continue

[39] Lawrenson, J. 2006 pers. comm.

working with the Pink Lady™ Association, but would only use branded fruit to cover gaps in availability. Asda publicly commented that by not using the Pink Lady™ brand, the retailer made a 30 pence per case saving which they could pass onto their customers.

The Asda example in the United Kingdom highlights the weaknesses facing Pink Lady™ as a non-PBR protected variety. Any grower internationally can buy Cripps Pink trees and market the fruit it produces, provided that the grower of the trees does not infringe on the PBR or Plant Patent on the variety and the marketer of the produce does not infringe on the registered trade marks of Pink Lady™ and its associated pink heart logo. It is also a requirement that Cripps Pink fruit entering the European Union and United States has been produced on Cripps Pink trees that have been authorised by Department of Agriculture Western Australia as being true to type.

Pink Lady™ maintains its point of difference through tight quality controls that ensure only Cripps Pink of a sufficient quality can be sold as Pink Lady. It has positioned itself as a premium line within the marketplace through aggressive sales and marketing to distance itself from seasonal competitive varieties, including other Cripps Pink fruit.

KEY MESSAGES

- The variety Cripps Pink is protected by Plant Breeders Rights and Plant Patents internationally and the Pink Lady™ brand is protected through trade mark registration in many countries which allows considerable control to be exercised over the production and marketing of the fruit.
- By integrating quality assurance, promotion and marketing into local and overseas propagation and production licences, Pink Lady™ has maintained the position as one of the highest priced apples in the key European and North American markets for more than a decade.

Iceberg Roses and Swane's Nurseries

ABSTRACT

Iceberg Roses in Australia provides an interesting perspective on one mechanism that the amenity horticultural industry uses to commercialise new genetic material. This industry, like no other industry in horticulture, is strongly fad-driven on the back of media and retailers programs. It is extremely diverse with multiple varieties and clones within a particular category. Unlike food horticulture, this sector has a low level of business concentration at every element of the supply chain. Combined with long lead times to achieve commercial release of new material, it represents a challenge for all segments of the chain to achieve and maintain commercial margins. Swane's Nursery through its highly recognisable Iceberg Rose chain has however developed a number of strategies which it believes will be of benefit to it and others within its supply chain over time.

BACKGROUND

ICEBERG ROSES

The white 'Iceberg' rose has been one of the most popular of all garden roses since it was bred by Reimer Kordes in Germany in 1958. It has clusters of white flowers with a light fragrance. Some of these beneficial production characteristics identified by Kordes of the White Iceberg over other floribunda types included:

- Less prone to fungal diseases such as black spot;
- Higher resistance to powdery and downy mildews;
- Fast to renovate by growing and filling quickly;
- Repeat flowers on any new wood very quickly;
- In warmer climates able to flower all year round; and
- Has a distinct apple green foliage (as opposed to deep green or mat foliage).

In Australia, the 'Iceberg Rose Family' consists of six cultivars. These being:

1. White Iceberg
2. Blushing Pink Iceberg
3. Brilliant Pink Iceberg
4. Burgundy Iceberg
5. Iceberg Supreme
6. Climbing Rose.

Swane's have been responsible for the commercialisation of the Blushing Pink Iceberg, Brilliant Pink Iceberg and the new Burgundy Iceberg launched in June 2003. These roses are now causing a sensation in the United States and Europe because of their free and constant flowering, almost thornless stems and impeccable disease resistance.

SWANE'S NURSERIES

Swane's commenced operations in Ermington in central Sydney in 1919. The first generation of the family were citrus and fruit tree producers who subsequently moved into the production of ornamentals. Due to increasing urban encroachment pressures the family moved to its current 16-hectare location at Dural in north-western Sydney. Swane's initial foray into roses was driven by a desire to generate sales income during the winter months when the sales of other ornamentals tend to fall off.

The Dural site comprises a large nursery propagation area, public rose garden (containing 6,000 roses), retail centre, café and container production division.

Swane's in the early 80's produced in excess of 1,000,000 plants each year, although in the face of increased competition this number is now closer to 350,000 per year. During the corresponding period rose production at Swane's has decreased 300,000-400,000 to 150,000-200,000 plants per year. Swane's is seen as one of Australia's largest and most innovative nurseries not just through its activities with Iceberg Roses but also through its development of Swane's Gold Pencil Pine, various releases of *Grevillea* spp and Gold Rubinia.

Swane's introduced the first international varieties to Australia in the early 1970's with the introduction of the renown Double Delight. These varieties were seen to be vastly superior in terms of agronomic performance and visual appeal and contributed to Swane's being viewed as the pre-eminent rose nursery in Australia. Greater competition from other commercialisers and growers has reduced the market share that Swane's holds today, although Swane's is still regarded as the leading rose commercialiser in Australia.

INTELLECTUAL PROPERTY

OVERVIEW

Iceberg Roses are not 'owned' by a single plant breeder. Rather they are a grouping of rose varieties that have unique appearance characteristics and in some cases are developed from similar genetic material. In the case of the 'family of six' Iceberg roses their origins and commercialisation responsibility are:

1. The original 'White Iceberg' variety which is now not proprietary to any one company as the PBR license has expired having been introduced over 20 years ago.
2. Blushing Pink, was a sport identified by a Tasmania rose enthusiast who subsequently applied for and was granted PBR rights. Lilia Weatherly granted commercialisation rights to Swane's. This variety was released in 1995.
3. Brilliant Pink, was a second sport originating from Blushing Pink, which was commercially released in 1997 by Swane's Nurseries who have the PBR rights to the variety.
4. Burgundy, again commercialised by Swane's Nurseries, was released in 2003, as a joint venture between Swane's Nurseries (who identified the mutation) and Prophyl Pty Ltd, the original breeders of Blushing Pink Iceberg from which Burgundy was a sport.
5. Iceberg Supreme was being commercialised by Anthony Tesslar International.
6. Climbing Rose, which is a public domain variety.

We will refer only to those varieties to which Swane's Nurseries have commercialisation licenses.

PLANT BREEDERS RIGHTS

Swane's Nursery enters into licensing agreements with international plant breeders to assess and commercialise genetic material that originates from these programs. Due to the considerable number of different pieces of genetic material that it brings in each year, Swane's Nursery will not lodge PBR applications for all material that it brings in.

In general, Swane's will only lodge a PBR application immediately prior to commercial release. They will then 'test' that variety in the market place for close to a year and if they decide that the variety has the potential for long term commercial success based on its performance in the first year they will proceed to completion of the application. By adopting this process, the variety is protected for a year as it is effectively under 'provisional application' but if it does not perform the more significant costs of proceeding to a completed application are not required.

Swane's contends that the margins available caused by overcrowding of the 'market place' does not allow it to go through with PBR applications for all genetic material. In certain instances, but not for any of the Iceberg Roses, it will lodge a trade mark application rather than proceeding to a PBR application.

Each PBR application is lodged with the codename of the bred variety. Each application has is permitted to have two synonyms by which the variety can also be known. The name of the variety is generally attached to one of these synonyms.

TRADE MARKS

Within the "Family of Six" Australian Iceberg roses none have been the subject of trademark applications. The lodging, approval and holding of PBR applications has resulted in each of the commercialisers being satisfied that trade mark protection is not necessary.

LICENSED DISTRIBUTORS

In Australia, there are two commercialisers involved with the "Family of Six" Iceberg roses that are located in Australia. The first two, the original White Iceberg and a subsequent variety, Climbing Iceberg are public domain varieties. Three varieties, namely Blushing Pink, Brilliant Pink and Burgundy are all licensed to Swane's Nurseries on an exclusive basis in Australia. Both Blushing Pink and Brilliant Pink were identified by Tasmanian rose breeder Lilia Weatherly from Prophyl Pty Ltd. Burgundy Iceberg was actually identified by Swane's as a sport from Blushing Pink. The sixth variety, Iceberg Supreme is licensed exclusively for commercialisation in Australia to Anthony Tesslar International by Clive Wallis, a New Zealand breeder.

THIRD LINE FORCING

No applications have been made in the past in respect of any of the Iceberg Rose family. This is not likely to be an issue in the future for Swane's or any of the other commercialisers as the long term interest of these parties is to maximise rollout. Further, the size of the market for individual varieties of Iceberg would not warrant an application to be made either by potential complainants or applicants.

COMMERCIALISATION

PLANT BREEDERS

Australia does not have a significant breeding program for roses. This is in part due to the small size of the Australian rose industry, with approximately 4 million roses sold per year. The major commercial rose breeders in the world are located in the United States. Jackson Perkins Nurseries in the United States is a grower / breeder, who have the capacity to produce 8 million roses in a year (twice Australia's total volume). Week Roses, also from the United States but owned by European company International Garden Producers, has according to industry sources the ability to produce 4 million roses a year. Other major plant breeding programs are located in France, Belgium and the United Kingdom. There are at least two good quality breeding programs, although much smaller, located in New Zealand.

Using the United States as an example, the majority of plant breeders undertake significant numbers of crosses each year. In the case of Jackson Perkins Nurseries this may involve the production of 400,000 seedlings per year in a year. Staff then assess the material for a variety of attributes, although initially the focus is on appearance characteristics. From this initial assessment those that exhibit the best characteristics are retained and supplied to commercialisers and assessment agencies across the world. In any given year up to ten releases are made available.

In the case of Swane's they receive imported material from plant breeders each year, generally in a budwood form. Initially the material must remain in quarantine for at least 10 months until AQIS are confident that no exotic pests or diseases are contained in the material. Within quarantine the initial grafting onto rootstocks occurs and after a period of months initial assessments are conducted.

Genetic material is supplied to Swane's by plant breeders on license. All responsibility and costs associated with material assessment, PBR and trademark applications are the responsibility of Swane's.

Swane's use a three-colour code system to assess varieties, where 'green' material exhibits high potential, 'amber' requires considerable more assessment and 'red' is discarded. By introducing a system such as this the quantum of material that is assessed on ongoing basis is reduced and therefore the costs are reduced.

Swane's assess new imported genetic material for a minimum period of three years and up to 7-10 years depending on the apparent uniqueness and robustness of the variety.

In the case of Jackson Perkins and Weeke's Nurseries in Australia, they have appointed a single commercialiser. The reason for this is that the size of the rose market in Australia is relatively small and crowded and so they would receive little benefit from their effort to split commercialisers when you take into consideration the costs that are involved in working with a single commercialiser.

SWANE'S NURSERY

Swane's Nurseries in this case study assumes a number of roles. Firstly, it is a commercialiser of new genetic material for which it has license agreements with international plant breeding companies. Secondly, Swane's is a budwood nursery that supplies other growers (nurseries) with genetic material under sub-license for ongoing multiplication and sale of plants. Thirdly, it is a commercial nursery in its own right that produces plants for sale to other nurseries, wholesalers, retailers and consumers.

Swane's is responsible for ensuring the integrity of the variety is maintained by not permitting unlawful production of the protected material. It is also responsible for the collection of royalties and remittance to the breeder.

PROPAGATORS / GROWERS

Swane's has a grouping of propagators to whom it provides sub-licenses to propagate Iceberg and other material to which it has commercialisation rights. Swane's do this because they understand that it is beyond their scope to be able to maximise the market potential of a variety by assuming that consumers and retailers will source product from their Sydney based nurseries. They have adopted an approach over time of classifying growers under a three-tier system. First-tier growers are those who are seen to be proactive by Swane's in the marketing and promotion of new varieties and so should be afforded the opportunity to gain access to the variety. Second-tier growers will generally be given access to the variety in the second or third year of release of a new variety. Third-tier growers generally only get access to older varieties for which Swane's brand is not applied.

In Australia, royalties are generally paid on a rate per unit calculated at the sale point by the grower. Where sub-licenses exist, Swane's also collects a royalty, in addition to that of the plant breeder. In the past, royalties have been calculated on the basis of number of successful grafts or on the basis of a percentage of sales revenue generated either at grower or retail level. Both models are seen by Swane's to be difficult to ensure that licensees pay the full or correct amount of royalty owing.

NURSERIES

Swane's have a preferred list of nurseries to whom they provide stock which they have propagated themselves. Other propagators may also supply a range of nurseries with genetic material although this is in fact rare as Swane's prefer to sell directly to those nurseries who do not do their own propagation.

WHOLESALERS

Wholesalers are those parties who sell to other intermediaries other than directly to consumers. For example, a landscape gardener who supplies roses or other plant material is considered a wholesaler. There are also growers of roses (and other products) who sell to other nurseries having sourced the genetic material from a commercialiser such as Swane's. As the pressure on margins continues to be driven down from the consumer end, where chain shortening can occur some of this segment of the chain may be forced out in future.

PRODUCT ROLLOUT

Similarly to rollout strategies employed in fruit and vegetable horticulture, the focus of many commercialisers has been to produce as much of the product as possible, in as quick a timeframe in order to maximise the return to the commercialiser and breeder. This has resulted in oversupply, low returns to growers and others in the supply chain and commoditisation of the product in the eyes of the consumer.

Swane's has experienced similar scenarios with plant material including that of the Blushing and Brilliant Pink Iceberg varieties.

Further, their recent experience is that many growers are not willing to 'drive' a new variety through marketing and promotional strategies to consumers and would rather wait until the demand is expressed by consumers. This is in fact a double-edged sword for Swane's because without the consumers knowing about the variety they are not in a position to know they wish to buy it.

As a consequence, Swane's is increasingly restricting the rollout of new varieties in the first year by making it only available to a very select group of growers and selling it from their own nursery. This allows them to recoup some of the added marketing and promotional cost by charging a higher price. Depending on the market reaction to the product they may extend this 'limited offer' for one more season, after which the variety is made available to other growers on a staged 'rollout' process.

This places added pressure on Swane's to ensure that the consumer awareness campaign is targeted to ensure maximum uptake. As a result Swane's invests significantly in a number of marketing and promotional strategies including:

- Production and distribution of 20,000 product catalogues per year to growers, retailers and consumers.
- Individual presentations to key accounts who maximise exposure, e.g. chain store retailers.
- Development of easily accessed and highly effective mail order and web order purchase system.
- Media presentations and release of material / information (including lifestyle television programs).
- Highly visible point of sale material.

This strategy focuses on developing a 'demand pull' approach whereby consumers who are made aware of the product approach their nurseries and other retailers to supply it. Retailers and growers are generally quite traditional and so are unwilling to take 'a risk' by stocking a new variety, but if the consumers want it, they will make all efforts to supply (otherwise run the risk of losing an order as well as a customer).

CONTROL OF PLANT MATERIAL

Swane's are required by all breeders to ensure regular communication occurs. In particular, they are required to provide updates on the commercial release of cultivars owned by breeders. Further, it is generally a requirement that Swane's complete all PBR (and other IP protection) activities on behalf of breeders.

Within Australia, each sub-licensee is required on an annual basis to supply a Propagation Report to Swane's in addition to remitting license fees. Swane's retains a portion of these license fees with the balance being remitted to the plant breeder.

In addition to the Propagation Report, each sub-licensee is required to attach to each Iceberg variety a label which provides details of the variety, other agronomic information and the Swane's logo. By controlling the delivery of this label, Swane's is able to keep a track on the number of units sold.

That said, Swane's readily admits that the control mechanisms in place to protect genetic material is not foolproof. They rely heavily on the honesty of its growers, although they feel confident there is limited leakage as they have long term relationships and trust with a number of the growers. If growers breach this trust they are quickly discarded from having access to material in future.

QUALITY STANDARDS

Swane's does not have in place a voluntary or compulsory quality system for the production of Iceberg roses. Swane's through its normal commercial practice to rollout new varieties in-house for 1 or 2 seasons, creates an unofficial quality standard which the customers seek from other suppliers as other growers and nurseries are permitted to produce the new varieties.

An association of rose genetic material importers, Rose Introducers of Australia (RiAus), has recently discussed the development of a quality standard for rose production. At this stage the association has declined to proceed with such a system. Within the USA, a standard does exist that grades roses based on a series of visual and physical characteristics into 3 grades, (Grade 1, Grade 1.5 and Grade 2).

DISTRIBUTION AGREEMENTS

Each grower (nursery) enters into a sub-license agreement with Swane's Nursery. This agreement does not permit any sub-licensed grower to supply genetic material to other nurseries for propagation and sale.

TRADE MARK LICENCE AGREEMENT

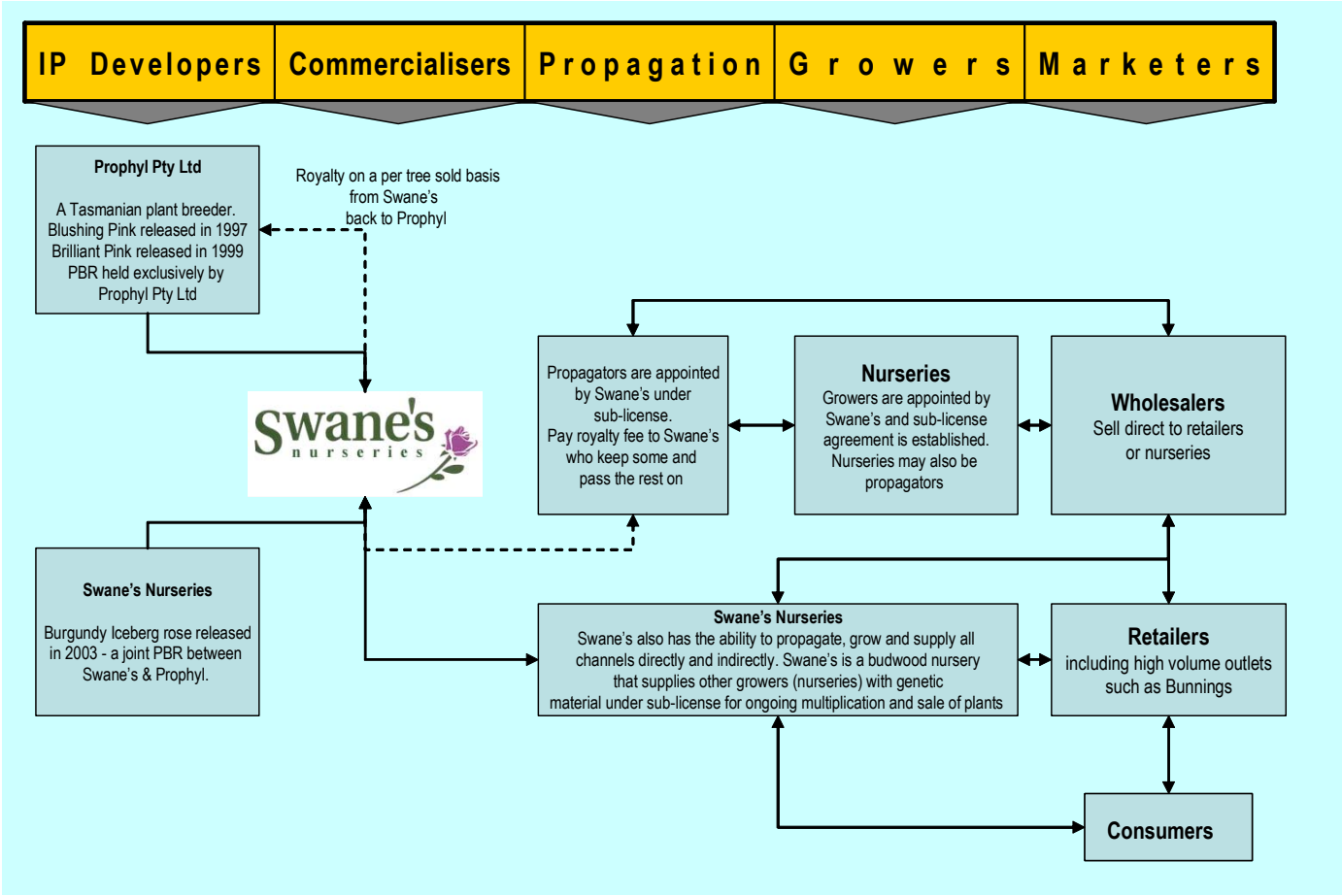
No trade marks are used for Iceberg Roses. However the sub-license agreement between Swane's and propagators does require that each rose produced must have attached a Swane's identification label. This label is not trademarked.

FUTURE DIRECTIONS

According to Swane's Nurseries, Executive Director, Finbar O'Leary the supply chain and how it markets both proprietary and non-proprietary genetic material is going to alter in the Australian nursery industry. Some of the developments he sees coming include:

1. The commercial nursery sector is going to be comprised of two types of operators. Firstly, those businesses that offer a 'nursery experience' when consumers come to them. Beyond offering only plants for sale, they will offer training workshops, café and lunch facilities, 'one stop' shopping convenience for gardening requirements, larger scale gardens. By necessity, these businesses will need to sell stock at higher prices but will also generate income from a number of streams. The second type of operator will be high volume business units who through volume are able to sell at lower prices. This is becoming evident through the emergence of Bunnings barn-type businesses.
2. Take careful stock of the length of the supply chain and that the margins available to each segment in the chain are sufficient to ensure economic sustainability. As 'chain captain' many commercialisers do not evaluate this fully and over time their reputation may suffer if not carefully attended to.
3. Consumers will over time demand varieties that are regarded as 'tried and true' as opposed to buying newer material which may or may not deliver on the its 'promise'. As spending becomes more discretionary on gardens and not withstanding the current drought, consumers will swing back towards purchasing plants that have a known track record. This trend is also being promulgated by the fact that many nursery staff are unwilling to recommend new varieties in case it does not perform to the growers satisfaction and so they tend to recommend proven varieties.
4. Sales through mail and internet orders will occur more as convenience becomes more a focus. Further, this may extend to having the plant 'installed' as well.
5. Landscaping Solutions. Again due to time pressures consumers will retain people to design and install gardens rather than do it themselves.
6. Back to Colour. There appears to be a trend back away from just foliage (eg. flaxs, grass and Lomandra) to gardens that deliver enhanced colour and visual appeal. Further, consumers are becoming increasingly savvy that products, such as roses, are not as delicate as has been portrayed in the past.

Figure 10: Swane's Nurseries & Iceberg Roses Commercialisation Supply Chain



7. In order to minimise the costs associated with PBR's and Trademarks there will be an increasing trend towards the 're-release' of older varieties in new 'packages'. This new genetic material will be tried and proven and so less likely to result in unfavourable outcomes. Further, where new varieties are developed that are not superior to existing varieties, a commercialiser may also re-release older varieties in order to provide to the public something 'new' each year.

KEY MESSAGES

- Be smart about the PBR application process. If the genetic material that is being commercialised allows for evaluation within 12 months of making the application, delaying a decision to make a full application may save money in the long run, if that genetic material has limited commercial appeal.

- Be smart about the commercialisation process. The best approach for long term commercialisation gain may be to slow down the roll out of the variety and / or limit the number of parties who can be sub-licensees. Choose only those sub-licensees who you feel will work with you in developing demand for the product.

- Ensure that the money spent on PBR applications has a realistic chance of contributing a return. Another strategy may be to look at trade marking. This however has limited applicability and may in fact only be relevant for certain classes of ornamental genetic material.

- Be proactive about the development of demand. Do not assume that others will create demand for your product. If your company is charged with commercialising the variety, you have the greatest incentive to make it a success.

- Examine a range of market development strategies that will boost awareness at the consumer level for your product, (if in fact that is applicable).

Zee Sweet®

INTRODUCTION

Zee Sweet® is one of a suite of trade marks used to protect a range of white and yellow-fleshed peach and nectarine cultivars and inter-specific (plum-apricot cross) plum cultivars. The trade marks protecting the cultivars are owned by Fleming's Nurseries Pty Ltd of Monbulk, Victoria who, with a range of industry partners, introduced the cultivars during the 1990's. The peach and nectarine cultivars are generally described as being sub-acid (having a low acid content to taste) and of high sugar content thus delivering a sweeter taste than traditional yellow flesh cultivars. The white fleshed peaches and nectarines are often eaten firm. This further differentiates the range from traditional stone fruit.

The Zee Sweet® range of cultivars are now arguably the dominant genetics used in Australian summer fruit production. They are widely planted and have served the Australian industry well, particularly in helping Australian producers gain market share in Asian export markets where the sweet, sub-acid flavour and crunchy texture of white fleshed peach and nectarine varieties are popular. Most Australian summer fruit growers grow some Zee Sweet® cultivars.

The Zee Sweet® program provides an interesting case study for this handbook as it is an example of a highly successful 'open loop' marketing system.

BACKGROUND

The Zee Sweet® cultivars are bred by Zaiger's Genetics of Modesto, California. An interesting history of the varieties is provided by Zaiger's sole US distributor, Dave Wilson Nurseries, at http://www.davewilson.com/z_file/TOC_zaiger.html.

The Zee Sweet® program comprises both low acid yellow and white fleshed peaches and interspecific plums branded as Pluots®. In addition to providing a 'unique taste sensation' due to the high sugar to acid ratio, the varieties have the added characteristic of remaining firm when ripe. This characteristic was introduced to the breeding program in response to consumer demands. Consumers had expressed a desire to move away from established varieties which generally had to soften before being able to be eaten. The impact of this development has been two fold. Firstly, retailers and other 'through chain' handlers of Zee Sweet® fruit have remarked on the lower levels of wastage with the varieties. Secondly, consumers have greater confidence in this stonefruit in that they have a greater chance of a pleasurable and consistent eating experience.

Other production and marketing characteristics that have been worked on by the Zaiger's and introduced in all or part into the Zee Sweet® program include:

- Extension of season;
- Increased firmness and storage life;
- Low(er) winter chilling requirements;

- Dwarf and semi-dwarf rootstocks;
- Late and early ripening varieties;
- Improvements in low acid / high flavour varieties; and,
- Improved range of interspecifics.

By the end of 2004 Zaiger's Genetics had patented in excess of 200 new fruit varieties. Zaiger's Genetics focuses entirely on the breeding of new cultivars. It has no direct role in the commercialisation of any of their genetic material, except through negotiating payment of royalties from those who are appointed as commercialisers.

COMMERCIALISATION IN AUSTRALIA

HISTORY

Zaiger's Genetics is the owner of the intellectual property vested in the Zee Sweet® cultivars.

In the early 1980's a group of 29 commercial fruit growers led by William (Bill) Aumann came together with Flemings Nurseries to pool their resources with a view to improving the range of fruit varieties available to Australian growers. This association was incorporated in 1983, as Flemings Nurseries & Associates Pty Ltd (FNA). Amongst the shareholders in FNA at incorporation were Flemings Nurseries Pty Ltd and 26 persons or groups of persons or companies, each holding one share - each of these 26 parties were commercial fruit growers.

In 1983, the Zaiger Family granted to FNA "an exclusive license to produce and/or sell indefinitely in the continental boundaries of Australia only" budwood from all Zaiger varieties registered or patented or to be registered or patented". At this time however, the collective genetic material was not known as Zee Sweet® or the Zee Sweet® Program.

In 1998, due to potential competitive pressures from another Australian commercialiser in respect of Zaiger's Genetics, FNA approached Zaiger's to review their licensing agreement. This resulted in Zaiger's signing a new exclusive agreement with FNA. Under the new agreement:

- FNA would receive both production royalties (a percentage of wholesale sales price) and tree royalties (on a dollar-per tree basis) ;
- FNA would pass a pre-agreed sum to the Zaiger's;
- FNA would retain the balance of the royalties; and
- FNA would undertake a marketing program for Zee Sweet® produced fruit.

This arrangement required significant capital input. FNA was not prepared to make the necessary investment. Consequently, Flemings Nurseries purchased a 51 per cent controlling interest in FNA and control of the board. The new entity became known as Zee Sweet Pty Ltd (Zee Sweet®), a joint venture between FNA and Flemings Nurseries. The board of Zee Sweet Pty Ltd still has a number of directors who are also growers.

The licensing agreement between Zaiger's and Zee Sweet® was to import and propagate stonefruit varieties and then to sell trees of these varieties to growers under a specific program, which became known as the Zee Sweet® program.

FLOW OF RIGHTS

Zee Sweet® received rights, under its exclusive Australian licence, to propagate and sell trees of Zaiger's Genetics varieties. Zee Sweet® then licensed Fleming's Nurseries to produce the trees. Growers who purchase Zee Sweet® trees from Fleming's must enter into a grower's agreement with Zee Sweet® and a non-propagation agreement with Fleming's Nurseries. Under the grower's agreement they are granted a license to grow and sell fruit but must deliver fruit to a packer licensed by Zee Sweet®. The packer must pack to quality specifications set by Zee Sweet®, use only packaging specified by Zee Sweet®, deliver regular reports to Zee Sweet® and deliver the fruit to a market agent or exporter licensed by Zee Sweet®. Royalties are collected on tree sales and on fruit sales. Zee Sweet® uses part of the royalties it receives for the promotion of Zee Sweet® fruit in the domestic and export markets.

The whole value chain is subject to a strict Quality Assurance procedures. The aim has been to ensure that the commercial potential of the genetics (sub acid taste, crunchy texture) is not let down by fruit that is poor quality in other aspects such as maturity, storage regimes, blemish, colour etc.

The flow of rights exercised for the commercialisation of Zee Sweet® cultivars is depicted on the following page.

ROLES OF VALUE CHAIN MEMBERS

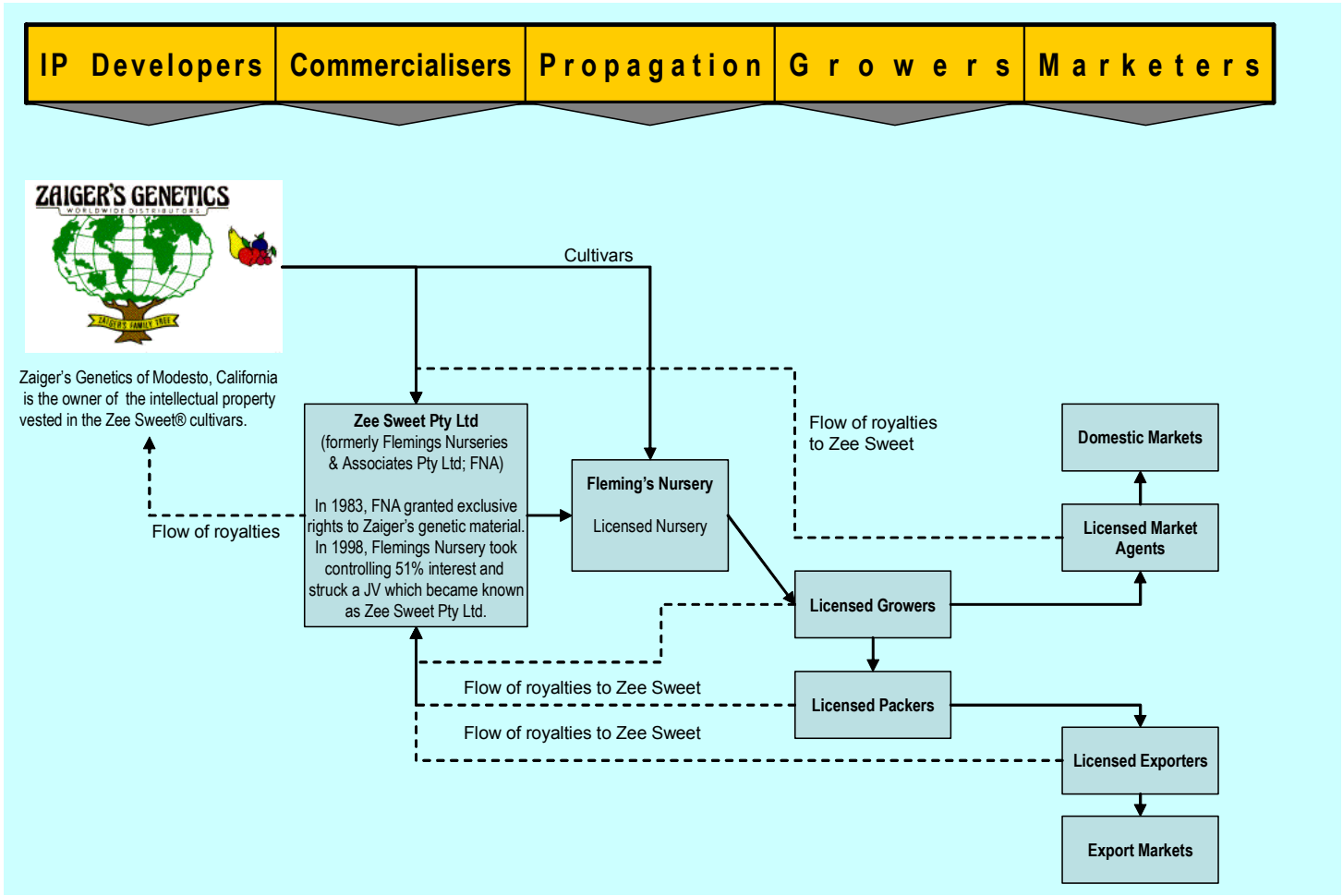
ZEE SWEET PTY LTD

Zee Sweet Pty Ltd (Zee Sweet®) is the exclusive Australian licensee for Zaiger's Genetics stone fruit varieties. From an intellectual property point of view it acts as the hub of the value chain.

Zee Sweet's primary roles are to:

- enter into exclusive master license with Zaiger's Genetics;
- identify and licence value chain members including:
    - Nursery
    - Growers
    - Packers
    - Market agents
    - Exporters;
- administer these licences, particularly with respect to packaging and quality issues and collect associated royalties (except the tree royalty). Remit royalties to licensors;
- develop and administer the Zee Sweet® quality assurance scheme. Develop associated Codes of Practise and product specifications; and,
- develop, fund and execute Zee Sweet® fruit promotional program.

Figure 11: Zee Sweet® Commercialisation Supply Chain



NURSERY

Fleming's Nursery is the sole nursery in Australia licensed to propagate trees under the Zee Sweet® program.

Fleming's Nursery key roles are to:

- propagate trees of Zaiger Genetic's cultivars ;
- promote Zee Sweet® varieties through their web site, catalogue, and other means such as grower field days ("Variety Showcases");
- sell and deliver trees to growers; and
- collect the tree royalty.

GROWERS

Access to Zee Sweet® planting material is restricted to commercial growers who sign a Zee Sweet® Growers Agreement and a non-propagation agreement.

Growers are responsible for:

- producing fruit to specified quality standards related to maturity, blemish etc and within a specified quality assurance scheme;
- storing and transporting fruit according to a protocol specified by Zee Sweet®;
- delivering fruit to a packer licensed by Zee Sweet®; and,
- paying the tree royalty and the production royalty.

PACKHOUSES

Under the Grower's Agreement, growers must deliver their fruit to packing sheds licensed by Zee Sweet®.

Packhouses are responsible for:

- packing fruit of Zee Sweet® cultivars into packaging approved by Zee Sweet®;
- applying the Zee Sweet® quality standards during packing;
- using the Zee Sweet® trade mark as appropriate; and
- raising appropriate documentation, as directed by Zee Sweet® for each grower and keeping a record of the amount of fruit the grower delivers to the packer.

MARKET AGENTS AND EXPORTERS

The packer may also be a marketer and/or exporter. If so they are required to be licensed by Zee Sweet®. There are a wide range of licensed market agents in each Australian capital city market and an extensive range of licensed exporters. The grower is allowed to choose the agent or exporter to which they wish to sell their fruit.

The key roles and responsibilities of market agents and exporters are:

- to sell the fruit to retail customers;

- collect the production royalty and remit this to Zee Sweet®;
- ensure that the fruit complies with the quality assurance program with respect to packaging, quality etc.; and
- to provide reports and remit royalties to Zee Sweet®.

OTHER POINTS OF INTEREST RELATED TO ZEE SWEET®

BRANDING

All fruit marketed under the Zee Sweet® Program is uniquely identified in two ways. Firstly, all fruit must be presented in cartons approved by Zee Sweet® and secondly it must carry a unique Zee Sweet® sticker. Initially cartons were white with a bright orange and electric blue colour scheme. More recently co-branding has been allowed with the end panel of a supplier's carton being divided between the suppliers brand and the Zee Sweet® brand. With the introduction of returnable plastic crates branding has become much less important but the requirement for stickering still remains. The stickers are important in providing the Zee Sweet® fruit with the highest possible level of consumer and 'through chain' recognition.

PROMOTION

Zee Sweet® is responsible for the ongoing promotion of the Zee Sweet® brand in the Australian and international market places. Funds for promotion form part of the production royalty.

The promotional activities are naturally focussed on only promoting Zee Sweet® fruit and so seek to provide a differentiation, through its inherent quality attributes, from other stonefruit that is produced in Australia.

Zee Sweet® produces a range of point-of-sale merchandising material, all with a common theme, logo and colouring

ZEE SWEET PTY LTD V'S MAGNOM ORCHARDS PTY LTD

The contractual obligations of growers entering into both Growers Agreements and Non-Propagation agreements with respect to the Zee Sweet® cultivars was tested in 2003.

In 2003 Zee Sweet® sued Magnom Orchards Pty Ltd, who had entered into both Grower and Non-Propagation agreements with it over a period of four years. Zee Sweet® contended that the defendant (Magnom Orchards) had committed seven breaches of the Growers Agreement along the following lines:

- it permitted Zee Sweet® fruit to be packed, sold and exported otherwise than through an authorised packer, agent and/or exporter;
- it failed to ensure that the agent or exporter retained appropriate documentation;
- Magnom Orchards labelled, packaged, boxed, transported, marketed and sold Zee Sweet® fruit without using the Zee Sweet® trade mark but using another trade mark; and
- it failed to pay the production royalty within 30 days of sale.[40]

[40] Dr. Matthew Rimmer, ANU College of Law, 2006.

The application made by Zee Sweet® was upheld in the Supreme Court of Victoria in late 2003. The court directed Magnom Orchards to:

- destroy 14,000 peach and nectarine trees; and
- pay the costs of Zee Sweet® of $750,000.

The impact of this decision on the wider industry has been the gaining of an understanding of the importance of variety commercialisation contracts in horticultural production. Growers must be fully understanding of the obligations that they are entering into in respect of licensee contracts, and that owners and commercialisers of genetic material have legal rights that can and may be enforced if a significant enough breach occurs.

OUTCOMES

The Zee Sweet® program has been a remarkably successful operation. In less than ten years the program has captured the position of the premium summer fruit varieties used in Australia. This has been due to a combination of: excellent genetics (unique when they were first introduced); good commercialisation practices in terms of the licensing system for growers, packers and agents/exporters; strong industry promotion via the Fleming's catalogue, website and field days; and a through chain approach – complete with retail promotion to "pull" product through the value chain.

While there are now other sources of white-fleshed, sub-acid peaches and nectarines that must take some credit, white-fleshed peaches and nectarines still return a premium over their yellow-fleshed equivalents. In the 2005/06 season this ranged from 5-50% depending on time of season and product. The Zee Sweet® program has played a major role in establishing this premium.

FUTURE DIRECTIONS

With the arrival of sub-acid peaches and nectarines from other breeders, Zee Sweet® faces much stronger competition than it did early in its product life cycle. Some of these other breeders have offered royalty regimes that are more attractive to growers than those for Zee Sweet® varieties. For example, similar varieties from Bradford Farms are only subject to a comparatively high, but one off, tree royalty. No production royalty applies.

Changes in the marketing of stone fruit (e.g. returnable plastic crates) and the provision of similar sub-acid lines from other breeders (that don't carry a Zee Sweet® sticker) have meant that Zee Sweet® brand is not as prominent in the market place as it was previously. Zee Sweet® has progressed to the "mature" stage as a consumer product with direct competition eroding its market share.

The real future of Zee Sweet® will be determined by the breeder. Should Zaiger's Genetics be able to develop products that have as big a point of difference as the Zee Sweet® range had at the time of its introduction, then there is a bright future for the brand. "Doughnut" stone fruit (peaches and nectarines that are squat like a doughnut, have small stones and are very easy to eat), novel red flesh lines and other innovations emerging from the breeding program are likely to ensure that the brand lives on.

KEY MESSAGES

- The Zee Sweet® case exhibits a strong focus on addressing consumer preferences (in this case consistency of eating experience and 'ease of handling') and providing a point of difference in the market

place. This was combined with quality control throughout the value chain and comparatively strong consumer brand identification to create a very successful range of fresh fruit products.

- The Zee Sweet® varieties are tightly licensed at all points along the value chain. Zee Sweet® have successfully enforced their licenses when necessary. Growers need to be aware of penalty clauses and the impact on their businesses in the event they breach an agreement. Conversely, plant breeders and commercialisers need to ensure that all agreements developed are legally enforceable and meet the aims of the commercialisation model that has been agreed to.

- The Zee Sweet® case demonstrates a "long term" mind set through the requirements for contracts at each stage in the value chain, the enforcing (when necessary) of these contracts, the focus on high and consistent quality output through strict adherence to a quality system, strong marketing controls and the requirement to pack to strict standards through licensed packhouses.

- Brand recognition through the introduction of the Zee Sweet® trademark and significant investment in promotion is core to developing a point of difference, at the consumer level, from existing varieties. The Zee Sweet® case also demonstrates the importance of awareness building with growers through the Flemings website, catalogue and field days.

- The Zee Sweet® case also demonstrates that a strong leader, who takes responsibility for shaping/developing the supply chain for the varieties is critical. In the case of Zee Sweet® this has been Flemings Nurseries. They realised that their success depended on other members of the supply chain also being successful with the Zee Sweet® varieties and developed the chain accordingly.

- The value chain leader must also have a strong understanding and awareness of the nature and characteristics of the supply chain. In the case of Zee Sweet®, this knowledge has been developed by Flemings through many years of relationships with all chain members.

Useful Contacts

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