Horticulture Innovation Australia

Final Report

Demographic research for the vegetable industry – Phase 2

Ian Davies
The Nielsen Company

Project Number: VG15019

VG15019

This project has been funded by Horticulture Innovation Australia Limited using the research and development Vegetable levy and funds from the Australian Government.

ISBN 978 0 7341 3994 8

Published and distributed by:
Horticulture Innovation Australia Limited
Level 8, 1 Chifley Square
Sydney NSW 2000
Tel: (02) 8295 2300
Fax: (02) 8295 2399

Content

Summary

To increase consumption and demand, the industry recognises they need to better understand consumers via the use of effective market research. This project provided the Australian vegetable industry with consumer behaviour data; the knowledge required to devise strategies to increase consumer demand in the different lifestage segmentations. Through employing a unified approach to the processing, analysing and reporting of consumer purchase data across a number of horticultural industries, Hort Innovation has been able to add greater value to each industry.

The key activities of this project were:

1. The provision of Homescan consumer data for 15 vegetable commodities
2. Client servicing and professional analysis of this data
3. The reporting of industry trends and potential market development strategies associated with the insights gained from the data for potential adoption by the industry.

Fifteen individual vegetable commodities were reported on: Fresh Salad; Lettuce; Carrots; Broccoli/Broccolini; Capsicum; Cucumbers; Pumpkin; Sweet Potato; Zucchini; Cauliflower; Beans; Sweet Corn; Celery; Cabbage; Asian Vegetables.

Reporting and deliverables consisted of a suite of reports including: 6Q Reports; Regular Analysis; Opportunity Calculations; Commodity Deep Dives; Ad hoc Analyses; and a series of Industry Presentations around Australia.

Across the suite of reports and analyses a total of 104 opportunities worth a collective $163.9 million were identified and 528 reports were delivered that included recommendations that followed the analysis and insights derived.

Outcomes for growers were: more information to enable discussions with retailers and supply chain, understanding the most appropriate market activation opportunities, insights to make market led decisions on product and packaging, diagnosis of seasonal performance and drivers and impact of variations in behavior across states.

Keywords

Consumer Alignment; Market Research; Market Trends; Retail Performance; Consumer Behaviour; Consumer Trends; Demographics; Nielsen; Homescan; Insights

Introduction

The Australian vegetable industry has a strong desire to increase demand for their products. To increase consumption and demand, the industry recognises they need to better understand consumers via the use of effective market research. Consumer Alignment is a strategic priority of the Australian Vegetable Industry Strategic Investment Plan 2012 - 2017: To better understand and meet consumer needs both domestically and internationally to increase demand and/or price. To contribute to achieving this strategic priority, market intelligence is required, including information on customer trends and changing preferences.

This project provided the Australian vegetable industry with consumer behaviour data; such as, the knowledge required to devise strategies to increase consumer demand in the different lifestage segmentations. Through employing a unified approach to the processing, analysing and reporting of consumer purchase data across a number of horticultural industries, Hort Innovation has been able to add greater value to each industry through the provision of shopper insights, providing input to customised market development and/or consumption growth strategies at the industry and individual farm business level.

The key activities of this project were:

1. The provision of Homescan consumer data for 15 vegetable commodities

2. Client servicing and professional analysis of this data

3. The reporting of industry trends and potential market development strategies associated with the insights gained from the data for potential adoption by the industry.

Importantly this project provided industry with data and insights to increase knowledge on consumer behaviour and the ability to have informed discussions with others in the vegetable supply chain.

Nielsen provided customised service, analysis and reports via use of a dedicated, contracted analyst. This way Nielsen was able to focus on the challenges and opportunities the Australian vegetable industry faces.

Fifteen individual vegetable commodities were reported on: Fresh Salad; Lettuce; Carrots; Broccoli/Broccolini; Capsicum; Cucumbers; Pumpkin; Sweet Potato; Zucchini; Cauliflower; Beans; Sweet Corn; Celery; Cabbage; Asian Vegetables.

Methodology

Nielsen's Homescan Consumer Panel is a proven and trusted source of consumer behaviour and purchase information; and it is considered retail currency in Australia. Woolworths, Coles, ALDI and IGA all have Homescan data on vegetables integrated into their business. Armed with this information, you know you will be viewing the same information and speaking the same language as your retail chain.

Homescan is the largest consumer panel in Australia providing unparalleled quality, accuracy and granularity in the market, allowing you to make business decisions with the right level of data in a seasonal industry – on a 4-weekly level, retailer specific, state specific or even at item level.

Homescan comprises a panel of 10,000 households and is demographically and geographically representative of the Australian population built based on ABS data and five variables that influence purchasing: region, lifestage, household size, income and retailer trade area.

Homescan also records purchasing from channels outside of supermarkets including greengrocers, farmers markets and other niche outlets, important for an industry that has a large proportion of sales where scan data is not available.

Nielsen is the only provider in market who receives weekly scan sales data on vegetables from both Coles and Woolworths. Our data science team regularly reconciles Nielsen Homescan data for with retailer scan data, showing consistent alignment between the two data sets.

Our panel members scan every grocery item that comes into their households and input key details about the purchase. Where produce items don't have a barcode the Nielsen Fresh Scanning Guide is used. This has unique and individual codes for key fresh items - 34 for vegetables, 20 for fruit, 9 for dried fruit and nuts plus codes for other fresh categories. There are multiple checks to ensure quality inputs from the panelists including flags for 'extreme purchases', total docket checks and the Nielsen panel compliance team are in regular contact with panelists for overall quality.

Estimates produced from any sample are subject to sampling variation which means that every number reported has a standard error associated with it. For example at a Total National level, a 40% share of trade number based on Nielsen's panel of 10,000 households will be subject to a 1% standard error at a 95% confidence interval. This implies there is a 95% chance that the true value of the estimate lays between 39%-41%. Sample size, along with sample design, increases data accuracy.

The Nielsen Data Science department, based in Sydney, is responsible for panel compliance and performance monitoring. Australia consistently exceeds key performance targets relating to panel management, making the service global best practice.

The Nielsen servicing team has completed intensive in-house training covering all data sources required for analysis. There are comprehensive quality control procedures at all stages of reporting and analytical work. Nielsen's HIA client service team have almost 30 years' experience in retail gained on both client and research agency side; and more than 20 years' experience in the fresh industry. All analytical work is reviewed by a senior member of the team before it is delivered to the client.

Outputs

Over the course of VG15019 the following have been delivered to HIA and the industry:

6Q Reports | 122 deliverables
The purpose of this report is to provide a monthly market overview for each category. The approach seeks to answer 6 fundamental questions including the key performance indicators (KPIs) for total category and target demographic audiences. The 6 key questions covered in this report are

- Are more households buying the category vs last year?
- Are households buying the category more frequently?
- Are category buyers purchasing/spending more?
- How is the category evolving across different channels and retailers?
- Is there a particular state driving the category performance?
- How is the category performing compared to other vegetables in the market?

Regular Analysis | 357 deliverables
The purpose of this report is to provide a more in depth market overview for each category. The approach builds on the 6Q Reports and provides a more in depth view of the market covering:

- Consumer behaviour KPIs for the commodity benchmarked against others
- KPIs trended across 4 weekly periods to assess seasonal variation and more granular changes in consumer behaviour
- An expanded view of demographics across all lifestages and household sizes
- Retailer performance and drivers that sit behind this

The Regular Analysis concludes with recommendations for growers and the industry.

Opportunity Calculations | 28 deliverables
The Opportunity Calculation reports identify and size opportunities by looking at demographic groups and the value that changes in their purchase behavior could deliver to the industry if achieved.

Commodity Deep Dives | 31 deliverables
The Deep Dives provide an in depth review of different consumer groups, identifying them for more specific targeting and understanding how their behavior is changing and the impact this has on the commodity. This was analysed through:

- Profiling Heavy, Medium and Light commodity buyers
- Profiling New, Lost and Retained commodity buyers

The Deep Dives conclude with recommendations for growers and the industry.

Ad hoc Analyses | 18 deliverables
The Ad hoc analyses reviewed specific industry questions developed in consultation with HIA and various stakeholders. The structure of deliverables varied according to the nature of the industry question.

Industry Presentations | 17 deliverables
Industry presentations were held in various locations throughout Australia and covered:

- Highlights from the annual Nielsen Retail Landscape that is presented at the Australian Food & Grocery Council each year to ensure growers were up to date on macro trends
- An overview of reports available and key details within them to create further engagement and understanding
- Review of recent ad hoc analyses to disseminate the key information on industry questions

Outcomes

The information and insights generated from this project assist growers of the included commodities to navigate the complex factors in the environment they trade in and understand how retailer performance, state performance and the consumer impact their business. This includes but is not limited to the following types of outcomes:

1. Negotiations with retailers
The reports and analysis enable growers to participate knowledgably with their retail/channel partners. They are able to provide expertise and justify decisions on ranging, promotions and pricing, using the language of the retailers and data points that retailers review regularly.

2. What are the most appropriate activation opportunities?
With knowledge of the drivers of consumption and purchase behaviour growers are able to focus on the most appropriate strategies to drive sales eg. If the number of households purchasing is low then awareness, availability and location should be the focus, whereas when frequency or spend per trip is low then volume driving strategies are more appropriate.

3. Making market led decisions on product and packaging
Understanding how changes in consumer behaviour influence vegetable consumption and how this may impact decisions made in their business, for example, whether pre-packed or loose will achieve the most incremental sales for their business and drive category value.

4. Diagnosing seasonal performance
Understanding the performance of each commodity and the impact on consumer behaviour of seasonal and or/external factors such as weather, supply, harvest quality.

4. How do variations across States affect the crop and how can I use this to drive growth?
Depending on where growers supply, the reports allow them to understand how behaviour varies and where the approach may need to vary to drive growth more effectively.

Across the suite of reports and analyses a total of 104 opportunities worth a collective $163.9 million were identified and sized to understand value to the industry of various changes and potential areas of priority to work towards:

COMMODITY (CONT.)	OPPORTUNITIES IN REPORTING	OPPORTUNITIES IN ADHOC ANALYSES	TOTAL
Asian Vegetables	$ 2,410,000	$ 3,700,000	$ 6,110,000
Beans	$ 2,570,000	$ 1,100,000	$ 3,670,000
Broccoli / Broccolini	$ 3,490,000	$ 2,900,000	$ 6,390,000
Cabbage	$ 4,633,300	$ 2,100,000	$ 6,733,300
Capsicum	$ 15,178,000	$ 2,900,000	$ 18,078,000
Carrot	$ 6,991,500	$ 2,200,000	$ 9,191,500

COMMODITY (CONT.)	OPPORTUNITIES IN REPORTING	OPPORTUNITIES IN ADHOC ANALYSES	TOTAL
Cauliflower	$ 4,158,200	$ 2,700,000	$ 6,858,200
Celery	$ 7,420,000	$ 1,279,000	$ 8,699,000
Cucumber	$ 8,109,000	$ 1,900,000	$ 10,009,000
Fresh Salad	$ 10,374,700	$ 3,700,000	$ 14,074,700
Lettuce	$ 19,810,000	$ 1,100,000	$ 20,910,000
Pumpkin	$ 21,730,000	$ 1,400,000	$ 23,130,000
Sweet Corn	$ 9,008,000	$ 3,900,000	$ 12,908,000
SweetPotato / Kumara	$ 6,890,000	$ 1,100,000	$ 7,990,000
Zucchini	$ 3,786,000	$ 5,400,000	$ 9,186,000

Recent examples of opportunities identified in 2016 include:

SweetPotato | $1.1million as households purchasing maintains momentum
If the current trends of more and more households purchasing this commodity continue the market can expect an increase in value of $1.1M in the next year (a 5% increase in buying households).

Celery | $765K for each percentage point of households purchasing prepacked
As the convenience format becomes more popular the industry will gain $765K for every 1% of households that convert from loose to pre-packed. Supply chain to Coles has the most to gain given the low level of celery in this format in this retailer.

Asian Vegetables | $20 million long term as popularity increases
With a relatively low number of households buying this commodity (35%), opportunity exists as the ethnic profile of Australia changes and/or the profile of this commodity grows. When Asian Vegetables are as popular as Cabbage (66% of households) it will equate to a $20M growth prize. Is it time to start planting this commodity?

Sweet Corn | $2.7 million if popularity increases
If buyer numbers could be grown through various activities, this would be worth $2.7 million for every 10% gain in households that purchased.

Beans | $1.1 million as buyers move from purchasing loose to prepacked
As buyers look for more convenience some are making the move to prepacked. With the higher value realized in this format for every 10% of households that purchase prepack instead of loose the industry would gain an incremental $1.1 million annually.

Evaluation and discussion

Project performance

The project provided Homescan consumer data across the 15 vegetable commodities included in the project. This increased the information available to growers and knowledge within the industry on consumer behaviour and market dynamics. Overall $163.9 million of opportunities was identified across all commodities included in the project and informal feedback was received from growers on actions taken within their business relating to changes in consumers, negotiations with retailers or channel partners, regional opportunities and packaging mix.

Report evaluation

The suite of reports was developed to cover the varying needs of users that would satisfy smaller growers with less data requirements to heavy users and the depth required to enable them to have meaningful conversations with their retail partners and utilise the information for major strategic decisions.

Nielsen delivered the reports to HIA and AUSVEG hosted the reports on their portal, communicated the updates and provided access to growers. Given the type of information in the reports access was password protected, which created a barrier to usage for some growers.

Awareness and utility of reports varied across the network of growers and in order to encourage usage by lighter report users an update to the reports was made in 2016 to reflect language that is more relevant to users not familiar with industry acronyms and terms. All abbreviations were removed and commentary within the reports was simplified and expanded in order to cater to a wider audience.

Additional formats were requested just prior to the close of the project based on grower feedback. Five reports were delivered in podcast format as a trial for a different method of delivering the data to growers, covering: Asian Vegetables, Beans, Capsicum, Cucumber & Pumpkin.

Industry presentation evaluation

During the industry presentations in 2016 a survey was conducted to assess this part of the project. Results demonstrated:

- 66% of attendees found content useful for business application
- 63% felt much more confident in using the data
- 59% said intention to use data has increased

Verbatim feedback included: *"I believe that these stats/data can and will be the driving force in all business decisions in our industry."*

Recommendations

Recommendations were made consistently throughout the reporting and a total of 528 reports included recommendations for growers and the industry. Recommendations typically covered topics such as: which retailers had opportunities for improvement, which retailers to look to replicate performance, how macro trends could be used to assist with changing consumer behavior.

A summary from the ad hoc analyses provides an example of specific recommendations made to each commodity during the course of the project:

COMMODITY	RECOMMENDATION
Asian Vegetables Feb 2016	Woolworths could focus on expanding its offerings and variety in the loose Asian Veg format, similar to Non-Super Markets. This will allow prices to be more competitive vs Green Grocers and make it a more credible as a destination for Asian Veg. Additionally, further review of Coles promotional strategy could assist Woolworths in reaching similar growth for loose Asian Vegetables. Enhancing merchandising for this vegetable will also help improve conversion levels (by addressing key barriers to purchase such as short shelf life). Bustling Families and Established Couples account for 47% of Asian Veg volume sales. Further investigation into these demographic groups usage of Asian Vegetables may be required in order to develop strategies to target other Family and Couples demographic groups, and promote similar usage.
Beans Sep 2016	Following the shortage, the market has gradually recovered in the last 4 weeks with Household Buyers now back and buying Beans, at an even higher level than same period last year. Pre-pack continues to gain (+5.5%) vs Loose (-2.6%) primarily driven by new Buyers and Switchers from Loose. They are mostly purchased by Families while Young Adults opt for Loose. Explore possibility of offering a smaller pre-packed fit for small-sized households (i.e. individuals, couples). With the higher value of Pre-packed Beans, converting 10% of households buying Loose (to Pre-pack) could potentially bring in \$1.1M incremental sales annually.
Broccoli / Broccolini Oct 2016	Activate Broccoli in store in Victoria to restore year ago levels of volume purchases worth \$2.9M. Work alongside retailers to initiate a Broccoli display near Tomatoes, Carrots and Potatoes. Try to prioritise Tomatoes since it is the top vegetable in Broccoli buyers' basket and because they tend to spend more on it. Implement solutions to increase average volume purchased per occasion: consider bulk packaging or educating consumers on alternative usages Emphasise the multiple health benefits of Broccoli (via small posters on the display for instance). With almost half of Australian adults having high cholesterol levels (VIC Health Gov + Bupa Australia Health), it would be worth explaining that Broccoli has valuable cholesterol-lowering ability. Moreover, it might contribute to drive consumption since there is a particular concern for health in Australia.

COMMODITY	RECOMMENDATION (CONT.)
Cabbage Oct 2016	Pricing may have driven some shoppers to leave cabbage, if at last half of these lost shoppers resumed buying cabbage it would be worth $2.1M. Coles has significantly increased share with a corresponding decline in Woolworths. It may be worth investigating what Coles is doing different to Woolworths, and working with Woolworths to help drive growth. Consider implementing solutions to increase average volume purchased: In-store activity is appropriate as well as multi-buys pre-packs or price promotions. Also consider marketing strategies towards households that are couples to retain these core buyers. They are more likely to have time to cook (compared to other buyer groups), thus recommending recipes starring Cabbage may help drive meal occasions.
Capsicum Sep 2016	Potential exists to grow value sales through proliferation of prepacked options. This format is increasing for the Vegetable market but is still underdeveloped in Capsicum which presents a growth potential of $1.4M incremental annual sales for every 1% of loose buyers who up trade into buying prepacked. Target Families, Established and Senior couples. Relative to other vegetables, there's also an opportunity to reach out to more households and encourage them to purchase Capsicum. If we are to reach 80% buying households (benchmarking against Cucumber), that's another $1.5M incremental annual sales.
Carrot Sep 2016	Large pack sizes of current Pre-Packed range may be a barrier to purchase for smaller households, given Australians are adverse to food wastage. Pre-packed Carrot can continue to be used as a value driver instore for the category. Given the convenience and easy of storage of Pre-packed Carrots, Loose Carrots would need to find a unique position beyond pricing at shelf to attract new buyers. Smaller Pre-packs to cater to smaller households and snacking opportunities may help attract Carrot buyers who currently do not purchase Pre-packs. Opportunity to realise $2.2M annual sales by targeting current Carrot buyers who have not purchased Pre-pack Carrots to trial (make one purchase) this format.
Cauliflower Oct 2016	Reach out to more consumers to buy Cauliflower by pairing it with Broccoli (in packs or store placement).), Cauliflower will be able to tap into non-buyers that are purchasing Broccoli and have the opportunity to reach as much as 15% more buyers. For every 1% increase in buyers, we can potentially realise $2.7M extra annually Encourage existing consumers to buy Cauliflower once more per year. With existing buyers only purchasing Cauliflower 5x a year, it's half of the frequency that they purchase Broccoli. If we can encourage 5% of the existing buyers to purchase more, that'll be $13M incremental sales for a year.

COMMODITY	RECOMMENDATION (CONT.)
Celery Feb 2016	Consider how other size packaging can grow the segment. Considering that families have the highest distribution for pre-packs, it is worthwhile looking into larger pack-sizes to accommodate this group. Further investigation may be needed to determine the optimal sized prepack, in order to maximise consumption habits without negatively impacting shopping frequency. Increase the penetration within all buyer demographics with more emphasis on families. Family demographic groups have greatest tendency to purchase between both formats of Celery and are heavily under indexing in value from pre-packs. There is an opportunity to grow their household reach of Pre-Packed Celery by highlighting the convenience, freshness and nutrition provided by Pre-Packaged item. Do not lose focus on loose Celery buyers. The Loose format has a strong following as most of the purchases come from this format, and duplication index of value is significantly higher for those households who purchase both.
Cucumber Oct 2016	Activate Cucumber in store across Australia in order to re-capture lost buyers and increase the households buying. Leverage on the importance of Cucumber to work hand in hand with retailers especially during the summer season to have in-store features or displays near more popular vegetables (Carrots, Tomatoes, Fresh Salad) to remind shoppers to include Cucumber in the basket of staples, or summer meals such as healthy salads. Potentially realise $1.9M incremental per year for every 1% new households gained. Review optimal pricing given the right level of supply to take out the barrier of price in purchasing Cucumber.
Fresh Salad Sep 2016	Instore activation may be the key to drawing new buyers to Fresh Salad. After the recall issue in February, the market has progressively recovered gaining back buyers and growing the household reach. With Summer coming up, it is a great opportunity to further drive growth for Fresh Salad as consumers start to include Summer Salads into their diets more often. Focus on promoting the convenience of Pre-packed Salads for a quick, healthy meal in the hotter months. Opportunity to realise $3.76M annual sales by gaining an additional 1% of Australian Households to purchase Fresh Salad.
Lettuce Aug 2016	Increase in store presence of loose lettuce to recapture buyers that have lapsed out of the commodity. In store display with other in season categories used in common varieties of salad, may help stem the movement of buyers from Lettuce into Fresh Salad. Opportunity to realise $1.08M annual sales by targeting previous Loose Lettuce Buyers to re-enter the Loose Lettuce segment. Pre-packed Lettuce can continue to be used as a value driver instore for the category. However quality may be a barrier for re-entering the Loose Lettuce Category, further investigation needed to ensure that this is in fact the case.

COMMODITY	RECOMMENDATION (CONT.)
Pumpkin Oct 2016	Activate Pumpkin in store across Australia in order to recapture lost buyers worth $1.4M. Pumpkin is losing significant numbers of buyers. Households are also buying less frequently. Consider marketing strategies towards younger households which are the main lost buyers to remind them to include Pumpkin into their basket of staples. Woolworths and Coles are in decline for Pumpkin in comparison to Aldi. Review what is causing this and how to revitalize Pumpkin in the two key retailers. Looking at levers such as packaging and recipe ideas could increase conversion. Furthermore, investigate what Aldi is doing in-store that is driving their growth, and work with the other retailers to activate similar strategies to increase sales.
Sweet Corn Aug 2016	Activate Sweet Corn in store to capture more buyers and increase purchase occasions. Especially during abundant seasons, consider investing on secondary displays near high-traffic Fresh goods (i.e. Bananas, Carrots, Tomatoes) to attract shoppers and be included in the basket of staples. Use prepacked which drives value sales and addresses families / busy mums' need for convenience. Opportunity to realize $3.9M annual sales by targeting one-time buyers to repeat purchase and another $273K for every 1% gain of new buyers
SweetPotato / Kumara May 2016	$1.13M opportunity exists if 5% of Australians (of whom 26.4% remain exclusive Potato buyers) were to purchase Sweetpotato once. This is a realistic target as this same level of growth was achieved last year. Incremental growth within Vegetables & wider starch should be leveraged to gain retailer support for instore execution activities. Sweetpotato is currently on trend and should take of advantage of this. To achieve this one occasion, promotion of recipes where Sweetpotato substitutes for Potato (a Potato & Sweetpotato half and half mash for example) at the shelf itself could be utilised given the proximity of Sweetpotato to Potato
Zucchini Nov 2016	Activate Zucchini in store across Australia in order to re-engage existing buyers (over 2 years) to buy more. Promoting different ideas will support Zucchini consumption and increase awareness among vegetable buyers. Educate customers about the various uses of Zucchini in summer: i.e. Raw Zucchini as in the Zucchini-Chicken Salad, in Baked Summer Squash for gatherings, Carrots-Zucchini Yogurt Muffins for Breakfasts etc. Review ALDI's strategy to understand how they successfully drove value without significantly impacting purchase volume and consider applying it within other retailers to turn around their performance! Consider shelf space, in-store location, prepacked vs loose, ALDI special pack, pack size, pricing and product quality.

Scientific refereed publications

None to report.

Intellectual property/commercialisation

None to report.