Horticulture Innovation Australia

Final Report

Baseline Demographic Research for the Vegetable Industry

Nielsen Australia

Project Number: VG13088

VG13088

This project has been funded by Horticulture Innovation Australia Limited using the vegetable industry levy and funds from the Australian Government.

ISBN 0 7341 3602 1

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

Contents

Summary

Project VG13088 was funded by Horticulture Innovation Australia to provide the vegetable industry with a baseline demographic read of the vegetable industry, by which growers could measure performance of the 15 participating commodities. The aim of the project was to supply growers and other key industry stakeholders with data and insights to support their already extensive knowledge; to enable them have an informed discussion with their retail partners and with their end client - the consumer. Generating consumer data provided the potential ability for industry at the individual farm business level to devise strategies to increase consumer demand across the range of different life-stage segmentation. It also provided industry with the ability to consider purchase behaviour with respect to factors such as product quality and presentation.

The project was delivered by Nielsen and commenced in August 2014.

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

In order to provide fresh vegetable industries with the best possible consumer insights to grow consumption, this project was based on a proven source of consumer behaviour/purchase information, Nielsen's Consumer Panel - Homescan. Homescan, a panel composed of 10,000 households both demographically and geographically matched to the Australian population, effectively addresses fresh produce research challenges and provides insights on consumer fresh produce purchasing behaviour. Homescan is widely used across the Australian fast moving consumer goods industry with both retailers and suppliers leveraging its information to track performance and inform business decisions.

Nielsen developed a customised suite of reports and analyses across the 15 vegetable commodities. These reports included key information about how each vegetable was performing and provided stakeholders with an understanding on the number of households purchasing the vegetable, who they are, how much they are spending & how frequently. These were distributed monthly by AUSVEG via email and also published on the AUSVEG website:
http://ausveg.com.au/intranet/vegetable-market/nielsen-reports.htm

The project has provided key performance indicators that the industry can now benchmark against into the future. These KPI's can be incorporated into strategic plans for each industry, allowing performance to be measured over-time and activities evaluated. It is recommended that the project be continued to allow for ongoing tracking and performance measurement. This will ensure Horticulture Innovation Australia, AUSVEG and the vegetable industry are kept abreast of how consumers are behaving and ensure the industry can continue to have an informed discussion with its retail partners.

Keywords

Demographic; consumption; demand; vegetable; fruit; consumer; marketing; promote; efficiency; retailer

Introduction

Australian horticultural industries, especially those involved in the production and/or distribution and commercialisation of vegetables, have a strong desire to increase demand for their products. To increase consumption/demand, it was recognised that these industries needed to better understand consumers via the use of effective market research.

As such project VG13088 was funded by Horticulture Innovation Australia in 2014 to provide the vegetable industry with baseline demographic research; a yardstick by which growers can measure performance and then devise strategies to increase consumer demand across the range of different life-stage segmentations.

The project aimed to provide the Australian vegetable industry with knowledge to increase the understanding of buyers. Baseline demographic data was collated and analysed to help devise strategies to increase consumer demand in the different life-stage segmentations.

Through employing a unified approach to the processing, analysing and reporting of consumer purchase data the project looked to add value to each respective commodity tracked through the provision of shopper insights and insights that could be utilised by vegetable businesses to customize market development and/or consumption growth strategies to maximise returns.

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

This project provided 15 vegetable commodities with expert analysis and insights generated from the interrogation of Homescan data to better understand their product in the complex and highly competitive market place of "food". Analysis and insights help industry's better understand their current and future customer, channel to market, regional and packaging opportunities that contribute to the knowledge required for industries to grow their sales and increase consumer consumption.

In addition to the different analyses and reports delivered during the year, Nielsen had the privilege of presenting at industry gatherings in Sydney, Launceston, Melbourne and the Gold Coast.

Methodology

While the need to understand consumers and grow consumption exists, understanding fresh vegetable consumers presents a unique set of market research challenges:

1. Unlike packaged grocery products, fresh vegetables are sold both barcoded (pre-packed) and loose (random weight). To understand consumers and optimise category growth, consumer research must be able to track consumer preference by packaging format.
2. A significant percentage of fresh vegetables are sold through non-supermarket channels. These channels include greengrocers, farmers' markets and other niche outlets. To understand consumer preference and behaviour by channel, research must do more than track just supermarket data.
3. Fresh vegetables have important seasonal variations which alter shopper behaviour. As a result, fresh vegetable consumer research needs to be continuous and have the ability to track and trend the behaviour of the same set of consumers over time.
4. Each vegetable is unique in the context of understanding consumer behaviour and what is required to increase consumption. Having knowledge about 'vegetable consumption' is interesting but limited in its ability to drive a consumption growth strategy. In contrast, having specific consumer knowledge on Sweet Corn or Carrots, for example, creates more options to drive individual commodity consumption growth. Effective research must be able to track a diverse range of vegetables individually, as opposed to just a broad category such as "vegetables".

In order to provide fresh vegetable industries with the best possible consumer insights to grow consumption, this project is based on a proven source of consumer behaviour/purchase information. Our approach was as follows:

1. The use of Homescan Consumer Data
2. The 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.

Understanding fresh vegetable consumer behaviour is challenging, but not impossible. Homescan, a Nielsen consumer panel made up of 10,000 households demographically and geographically matched to the Australian population, effectively addresses fresh produce research challenges and provides insights on consumer fresh produce purchasing behaviour in the following ways:

A. Homescan panellists individually track their purchasing of individual fruits and vegetables, both barcoded (pre-pack) and loose produce purchases, via an in-home scanner and scanning guidebook. The guidebook contains individual fresh produce codes, e.g. broccoli, asparagus, apricots, avocadoes, etc.

B. Homescan panellists record their purchasing via outlet, whether supermarket (Woolworths/Coles), other supermarket (ALDI, IGA), green grocer or farmers' market.

C. Homescan is a continuous panel over time. Panellists stay on the panel an average of three years in Australia, supplying continuous trended information.

Nielsen's dedicated Data Science team are responsible for all statistical quality procedures, protocols and controls for our consumer panels and include the following areas:

• Universe Estimation – ensuring most up-to-date and accurate universe estimates are applied to our panel on a 4 weekly basis

• Sample design – identification of critical design variables, highly correlated with purchase behaviour and the application and maintenance of a representative sample design

• Data Input validation - parameter setting for validation of data collection inputs, including extreme purchase detection

• Input trend validation - 4 weekly validation of data trends through our trend validation quality control processes

• Projection methodology – incorporating the latest global methodologies to provide the most robust representative estimates

• Panel Recruitment – ensuring the highest quality of fit is maintained between sample and recruitment targets through a rigorous panel recruitment filtering process

• Panel Health - proactively managing the panel health by continuously reviewing panel compliance and implementing forced churn where applicable

• Product Enhancements – annual review of design and quality enhancements to the panel

• Data output validation – data validation mechanisms are in place to ensure the ongoing robustness of panel data.

The project's reach was intended to provide this baseline demographic research to participating industries/crops & growers within. The target audience could access the regular reports and analysis via the AUSVEG website (http://ausveg.com.au/intranet/vegetable-market/nielsen-reports.htm); vegetable industry stakeholders receiving monthly updates when the latest information was released.

Additionally, four industry presentations were given by the Nielsen team: Launceston (facilitated by the Horticulture Australia Limited funded Tasmanian Vegetable Field Extension Officer – VG13115; Sydney (at the NSW Farmers' Horticulture Conference); Melbourne and the Gold Coast (to the Consumer Alignment vegetable advisory panel).

Outputs

Nielsen worked with Horticulture Innovation Australia and AUSVEG to develop a customised suite of reports and analyses across the 15 participating vegetable commodities as outlined in the methodology.

Data reporting to the industry was in the form of PowerPoint slides, with charts, graphs, tables and analysis.

These reports and analyses included the insights resulting from the interrogation of Homescan data. Data is analysed in different ways, using different criteria, depending on the needs of the industry. Data analysis looks for consumer behaviour trends at multiple levels. An analysis typically starts at the macro level (fruit/vegetable/dried fruits and nuts) in order to understand category trends. It then drills down to product level (e.g. Carrots/Asian Veg/Sweet Corn) and starts to identify key consumer 'sales drivers'.

Some of the consumer sales drivers can be further analysed by channel to market (supermarket versus greengrocer), by region (state versus state) or by consumer demographics (life-stages, primary shopper age, presence of children, income).

The following are the reports, analyses and services delivered for each of the 15 vegetable commodities over the year of the project and their frequency (in brackets).

Please refer to the appendix for a link to these reports on the AUSVEG website.

Deep Dive (1) - A detailed analysis of the performance of different vegetables in the last two periods (i.e. years) and how the shopper indicators might be affecting these results. This analysis was delivered once and is used to review actual results of the industry versus its objectives. It includes metrics such as, proportion of households purchasing vegetables, benchmark with others, spend, who's buying, where opportunities are. In this analysis we also include New, Lost and Retain buyer analysis, which offer insights about how healthy the industry is in regards to attracting new buyers and increased understanding on those who stopped buying it. Another analysis we include is Heavy, Medium and Light buyer analysis; this is used to gauge the importance of each group and define where opportunties are to increase the overall purchase pattern for the commodity.

Reports (4) - This is a 6-8 page top-line document, issued four times, describing in a graphic and simple way the performance of the industry. It contains key information about how the vegetable is performing. It is recommended as a regular overview read and includes a summary of key findings. Some analyses included are: Proportion of buyers purchasing the vegetable, who they are, how much are they spending, split by State and performance by Retailer.

Regular Analysis (8) - A document that analyses the monthly trends of the different commodities relevant to one industry. The main purpose of this analysis is to track the current results to ensure the strategies implemented are showing the desired impact on the market. This document was delivered eight times per commodity.

Opportunity Calculator (1) – A tool developed to estimate potential retail revenue that could be generated by improving some of the key indicators. It "assigns" a value to the strategy, therefore helping to prioritise the different strategies. It was delivered once during the life of the project, per commodity.

Presentation to the Industry - On top of the different analyses and reports delivered during the year, some industries find it very helpful to have our team present at industry meetings, and be an active part of the discussion. Depending on the objective of the meeting, we might present the last year's results and have an open discussion on the learnings and potential opportunities for the next years. We also take the opportunity to present some macro trends that the Australian market is showing and their potential impact on purchase behaviour (i.e. Private Label, Importance of Fresh in the grocery aisles, etc.). Four presentations were given over the life of the project. There was scope for additional presentations and they will be provided as part of any follow up project.

The presentations given were:

- Tasmanian vegetable growers meeting – facilitated by the Tasmanian Field Extension Officer (VG13115) (30th July 2015) – Launceston, 15 attendees
- NSW Farmers' Horticulture Conference (June 2015) – North Sydney, 50 attendees
- Consumer Alignment vegetable advisory panel (30 October 2014) – Melbourne, 15 attendees
- Consumer Alignment vegetable advisory panel (27 June 2015) – Gold Coast, 12 attendees
    - A follow-up from this session saw the Nielsen Retailer Services team present to a key retail partner on trends within fresh Fruit & Vegetables.

Ad Hoc Analysis / Business Issue - In some situations, the industry will face specific challenges (i.e. the performance of the different Celery packs - whole bunch, half-bunch, pre-pack). In those cases our team can investigate any information available in Homescan to assist gaining insights and better understanding the specific question.

Ad Hoc analysis reports we provided for:

- Asian Vegetables (April 2015)
- Celery (May-June 2015)

There was scope for additional ad hoc analyses and they will be provided as part of any follow up project.

The project was also discussed in the following forums & publications:

- InfoVeg Radio R&D Podcast – 12th June 2015
- Facebook & Twitter – Integrated Crop Protection – Protecting Crops – 29th April 2015
- Enquiry from channel 10's "The Project" around Carrot data/trends – 29th June 2015
- Ausfoodnews.com.au – 11th January 2015
- InsideFMCG.com.au - 16th March 2015

Outcomes

The aim of the project was to provide the vegetable industry with expert analysis and insights generated from the interrogation of Homescan data, to better understand their product in the complex and highly competitive market place of "food". Analysis and insights were designed to help the industry better understand their current and future customer, channel to market, and regional and packaging opportunities that contribute to the knowledge required for industries to grow their sales and increase consumer consumption.

While the tangible outcome industries received from these analyses was access to information and insights through a suite of reports and face-to-face presentations addressing their specific industry issues, this project has the potential for longer term outcomes if industry adopts insights/recommendations and takes action as a result. Outcomes will continue to be realised in the future as the growers and industry continue to engage with the information and measure performance. The data collected can also be used as a benchmark for the vegetable industry.

The project, supported by the continued access to the Homescan information has provided Horticulture Innovation Australia, AUSVEG, growers and other industry stakeholders with:

- A complete view of shopper behaviour
    - On average, Australian shoppers purchase across four different retail banners throughout the course of a year. Homescan captures all take-home transactions from all channels, all retailers and all methods of payment. Armed with this information industry can better understand their shoppers' repertoires and how their sales and marketing activities, or on-farm practices that contribute to quality, influence their purchase behaviour.
- A common language to use with key retailer partners
    - Homescan is a key way Australian retailers can monitor and understand their competitors' performance. Coles, Woolworths, IGA and ALDI currently use Homescan within their business and with suppliers. The vegetable industry has access to Homescan data and information, enabling vegetable producers to "speak the same language" as retailers, to add greater value to retailing partners by helping them grow their market share.
- The closest possible total market read (including ALDI, Australia's fastest growing supermarket chain)
    - In the absence of scanning information from retailers like ALDI and Costco, the vegetable industry can use the Homescan shopper panel to report on market share and category performance across these banners.
- Benchmarks to measure future success
    - The project has provided key performance indicators that the industry can now benchmark against into the future. These KPI's can be incorporated into strategic plans for the industry or individual commodities, allowing performance to be measured in the future. This project enables goal orientated plans which can be

tracked and compared over time.

- Driving marketing & activation activities
    - Homescan points growers to what aspect of consumption and purchase behaviour they should focus on to drive more sales and better category performance.
- Knowing who your key consumers are
    - By understanding the dynamics and gaps of how various demographic groups are shopping the category, growers are able to tailor marketing and trade activities, and on-farm practices to meet their needs better and shift their consumption behaviour.
- Providing an understanding of the interaction between vegetable crops
    - Nielsen Homescan can be used to understand the relationships between various vegetable types. This is really useful, especially if certain crops are substitutable and cannibalistic to each other's growth, in order to manage the overall vegetable portfolio better.
- Visibility on the impact of seasonality
    - The flexibility of Homescan also allows growers to monitor season by season performance of crops. Factors like weather events, fluctuations in supply, promotions, harvest quality are some of the things that can explain the sales results of vegetables before, during, and out-of-season.
- Sharing insights & information
    - Putting previously unknown information, via a tailor-made reporting suite, in the hands of the industry and growers. The project has made the information easily accessible to the growers and provided them with a baseline of data to support their already extensive industry knowledge.
- Wider-awareness of the benefit of market research
    - Engagement with the industry through face to face presentations also helped to increase awareness of the various information sources available to growers (including but not limited to Nielsen's project) and the importance of supporting plans and actions with data/insights. Our presentation in Launceston was made alongside Dr Laurie Bonney who stressed the importance of market research in increasing the value chain and "growing the pie" for all participants.

Evaluation and Discussion

We are extremely proud of how we have worked with Horticulture Innovation Australia and the industry over the past twelve months and have looked to collect feedback throughout the duration of the project to enhance our current deliverables and also plan for the future.

As discussed with the Vegetable Consumer Alignment Advisory Panel, quantifying the learnings and outcomes of the project remains difficult; relying heavily on a) first developing a baseline read of what is happening in the market (primary objective of the project), b) the industry understanding the information and c) the adoption of the insights/recommendations through decisions or actions as a result. The intended outcome of this project was to provide a benchmark for the industry and provide industry with the information they require to have informed discussions with retailers.

We have summarised our Evaluation/Discussion section across key aspects of the project including the major deliverables provided to Horticulture Innovation Australia.

Methodology:

As outlined in the afore mentioned Methodology section, the strength the Nielsen Homescan panel in measuring consumer behaviour is highlighted by its use across the major Australian retailers and leading FMCG manufacturers across both Fresh & Non-Fresh categories. Our Homescan panel provides the definitive read on the <u>actual</u> (not claimed) fruit & vegetable purchasing of Australian households <u>over-time</u>. It also empowers growers in their conversations with retailers - enabling them to speak the same language and support their existing industry knowledge with consumer and demographic data/insight.

Reporting Suite:

Nielsen successfully delivered against its contractual reporting output commitments throughout the project, meeting each monthly deliverable milestone and also providing Horticulture Innovation Australia with an additional month's of reporting as a value-added benefit of collaborating with us. This reporting suite provided varying levels of detail across each crop to ensure a clear baseline read of consumer and demographic information was available to the industry over the year. This amounted to over 214 reports and analysis across the 15 crops.

Feedback from Horticulture Innovation Australia during 'Work in Progress' meetings, our discussion with the Consumer Alignment Advisory Panel, and also engagement with growers at various conferences/meetings frequently recognised the value and importance of the information that was being provided through these reports.

Further feedback from these sessions also highlighted the opportunity to provide:

1. Snapshots and Executive Summaries - Executive Summaries in each report (both written and graphical) to provide a quick overview of the report contents; used to garner attention and increase readership of the full report. Key inclusions covered, but not limited to, are - what's my price, what are the opportunities, what might we be missing, who is buying my commodity?

2. Need to explain the terminology - Abbreviations are not widely understood (grower language not marketers' language).

Taking this feedback on board, we have already drafted some potential "One-Page Reports" to highlight the top takeaways for a particular crop. We would aim to develop these further in a future project, building in additional grower feedback to help drive usability.

Industry Presentations:

Regarding Industry Presentations; those we have conducted to date appear to have been well received, with positive feedback from the industry body and growers alike. These sessions have provided a great opportunity to communicate not only some of the key trends occurring in Australian Grocery and the Fresh Industry, but also highlighting what information is readily available to the growers and how it can be used to engage with retail partners and create outcomes.

From the few industry presentations we have done to date in Sydney, Melbourne, Launceston and the Gold Coast, it became clear that the best way to understand the needs of the growers is to speak with them directly. Having this face-time to discuss what we can do, how it could help them and opening the floor to hear their thoughts, provided several analytical opportunities to explore. It also drove grower engagement with the data - the benefit of having someone explain it to them clearly and simply in person.

We believe these Industry Presentations are a key means of creating wider awareness of the project (and other related research projects) and should remain a key focus of any future activities.

Ad Hoc/Business Issue Presentations:

One of our key take-outs from the project, mirrored by feedback we've received from Horticulture Innovation Australia and the Consumer Alignment Advisory Panel, is the difficulty in receiving business issues to investigate from the industry. This appears to be driven from a lack of both a) awareness of the resource available to the industry and b) an understanding of what questions with which the data may be able to assist.

Throughout the project, in collaboration with Horticulture Innovation Australia, we looked to drive awareness of the resource by sharing frequently asked questions from our wider client base and analytical examples. We incorporated this into our industry presentations and it was also shared during Horticulture Innovation Australia's industry roadshows.

Once we received an ad hoc question for a vegetable commodity (Celery & Asian Vegetables) we were able to work with the stakeholders to understand their issues and developing an analysis pathway to help support them. Feedback on these deliverables was strong, again highlighting the initial engagement as the key step in the process.

Overall:

From our work over the past year, and feedback provided by Horticulture Innovation Australia and the Consumer Alignment Advisory Panel, there are three key areas that will help to drive greater adoption of insights if the research were to progress further:

1. Improve understanding of growers' needs from the data
2. New mechanisms to gather the key issues/challenges from growers – enabling greater ad hoc analysis & industry presentations
3. Need to identify all target stakeholders and ensure reports are distributed to all

4. Setting up clear KPI’s to measure performance & ROI now that a baseline understanding of consumer behaviour has been setup.

Recommendations

Recommendations resulting from the project have been split into two areas; analysis recommendations & project recommendations.

Analysis Recommendations:

Within the more detailed reporting options (e.g. Deep Dives) and also any Ad Hoc analysis, we look to include recommendations to the industry on what to do and the potential impact of these actions. These recommendations should not be taken in isolation, but rather into consideration along with the wealth of other information and expertise available to the industry. As highlighted in our presentation to the Consumer Alignment Advisory Panel, we are keen to work more closely with key stakeholders to better understand how the data and insights can be actioned day to day so that we can make the most relevant recommendations possible.

Below is a topline summary of the recommendations included within the Celery Ad Hoc Analysis exploring pack-types & sizes. Further examples of recommendations can be provided by crop upon request.

- Pre-pack as an entry point into purchasing celery
    - Activate widely in Coles and explore reaching out to other channels as well – IGA and non-supermarkets
    - With new consumers buying into celery as a result of pre-pack format, it may be worthwhile to ensure availability across points of purchase. Currently Coles lags behind Woolworths and minimal presence seen in IGA and non-supermarkets
- Engage with independent singles for pre-pack option
    - Independent Singles (21% of population) are under-penetrated on pre-pack compared to other demographic groups. Highlight the convenience and nutrition provided by pre-packaged items to appeal to this cohort
- Do not lose focus on loose celery buyers
    - Loose format has a strong following with most of the purchases coming from this format hence, should remain available for loyal consumers

Project Recommendations:

If the project were to continue into a second year we would recommend the following:

- Increasing business-issue analysis request across the industries
    - How → Ongoing education and awareness-driving activities such as Training Sessions, "What's Hot" top-line emails and further Industry Presentations will be keys to driving greater engagement.
- Increasing distribution of information & insights
    - How → Off the back of our project learnings and feedback, we would recommend

that, at the commencement of any future project, a key stakeholder meeting take place. This would involve representatives from Horticulture Innovation Australia and each vegetable crop to: discuss key needs, capture a comprehensive contact/distribution list for reports and understand preferred reporting/output formats. We believe these meetings would go hand in hand with our Joint Business Process and would greatly benefit both the industry and Nielsen in how we work together.

- Stronger push for presence at Industry conferences/grower meetings
    - As mentioned earlier, speaking directly to the industry at these sessions is the greatest driver of awareness for the project and also the best means of collecting business issue needs.
- Introduction of "One-Pager" reports
    - Dual purpose reports which will serve as the day to day information needs of some stakeholders and an appetizer for other who will then delve deeper into the more detailed reports.

Scientific Refereed Publications

None to Report

Intellectual Property/Commercialisation

No commercial IP generated

Appendices

Outputs: All reports are updated monthly on the AUSVEG website. A copy of the reports can be downloaded from the below link:

http://ausveg.com.au/intranet/vegetable-market/nielsen-reports.htm