

## IN THIS ISSUE:

- **Identifying market opportunities for Australian vegetables in China.**

### HIA R&D project number: VG12095

Project VG12095 aimed to identify the market opportunities for Australian vegetables in China by exploring Chinese consumer buying habits and their attitudes to Australian produce, as well as undertaking a review of Chinese market structure.

- **Review optimal cooking techniques for vegetables to maximise retention of nutrients.**

### HIA R&D project number: VG13087

Project VG13087 provides information on the effect of cooking on the flavour and health benefits of all levied vegetables.





## Identifying market opportunities for Australian vegetables in China.

### Facilitators:

Project VG12095 was completed by Bill Morgan and Caspar Wright, from Cognition Research, and Peter Whittle, from Horticulture Innovation Australia.

### Introduction

Rapid economic growth and steady currency appreciation makes the Chinese market increasingly addressable for importers.

In tier one cities, especially Shanghai (population 23 million) and Beijing (population 20 million), the packaged premium segment is substantial and fast growing, creating an opportunity for Australian producers.

### About the project

Project VG12095 focused on exploring opportunities for Australian vegetables in China.

Following three stages of qualitative and quantitative research rolled out over the course of 2013/14, large-scale research was conducted among Chinese consumers, as well as local retailers, wholesalers, government officials and thought-leaders.

The project, led by Bill Morgan and Caspar Wright, from Cognition Research, and Peter Whittle, from Horticulture Innovation Australia (HIA), was completed last year, with further work in a separate study currently underway to more fully explore market entry issues.

### Major findings

The study found that Chinese consumers were interested in purchasing Australian vegetables and that, despite a tight target audience in the tier one cities, the opportunity was a sizeable one.



“There is a large and growing demand for premium vegetables amongst China’s growing middle class,” Mr Morgan said.

“The three tier one cities in China (Shanghai, Guangzhou and Beijing) alone have a cumulative population of 56 million people, of which approximately one-third has an income similar to average Australians.”

“The target market is defined as households with an income of more than 15,000 RMB (AUD\$2,500) per month, representing around 11.6 million people, who currently shop from modern channels and consumed 3.3 million tonnes of vegetables in 2013.”

“This group is most likely to buy premium, packaged and organic vegetables.”

Mr Morgan said consumer demand in China was driven by an acute lack of confidence in the safety and quality of Chinese produce, particularly compared to Australian vegetables, which are perceived to be ‘healthy’ and ‘safe’.

“Chinese consumers eat a wide range of vegetables,” he said.

“Currently, there are few imported vegetables in the market (in Guangzhou only), but there is strong, latent demand for vegetables from Australia.”

Mr Morgan said Australia and New Zealand were uniquely positioned to meet the needs of Chinese consumers.

“Within the target market, the consumer ‘sweet spot’ is families with a young child and a willingness to spend extra on premium food – partly for nutrition for the child,” he said.

“This was confirmed by a positioning statement that we developed and evaluated which we found to be rationally and emotionally compelling to target Chinese consumers.”

Mr Morgan said modern channels, such as supermarkets and premium retail, were addressable by Australian producers.

He said these were steadily replacing traditional wet markets and should be the primary target channels.

“Target consumers are already paying premium prices for product,” Mr Morgan said.

“Therefore, the optimum point for Australian producers is likely to be between domestic (Chinese) farm branded produce and domestic organic – the two highest price strata (up to five price points can be commonly found in supermarkets and in the market generally).”

### Conclusion

Mr Morgan said an ‘Australian branded range’ of products would deliver the most impact and best meet consumer and retailer needs.

“However, there may also be ‘single product’ opportunities for producers to pioneer the market,” he said.

“Based on high-level value chain analysis, broccoli, sweet corn, carrot, coloured capsicum and cucumber are all products that have the greatest consumer demand in China and a high probability of being able to be sold economically.”

## Next Steps

Mr Morgan said further research was required in terms of market access issues, with a future project already commissioned by HIA on this issue.

“It is recommended that the industry focuses on achieving ‘permitted’ access for the priority product types,” he said.

“The forthcoming Market Access Study should explore the options for the industry to create a single point of contact for Chinese customers to access a range of commodities, with a view to enabling ‘Brand Australia’ to market a product range in China, and to sell directly to retailers.”

“In the meantime, producers could pioneer the market through partnerships with experienced Chinese wholesalers, subject to their own commercial and legal due diligence, and understand the ambiguity/risk of working via ‘grey’ channels.”

## THE BOTTOM LINE: VG12095

- The target market for Australian vegetables in China is large and open to considering Australian produce.
- Consumer demand is driven by a lack of confidence in the safety and quality of Chinese produce.
- Meanwhile, target consumers are increasingly paying premium prices for product.
- Modern channels, such as supermarkets and premium retail, are addressable by Australian producers, are steadily replacing traditional wet markets and should be the primary target channels.

## Acknowledgements

This project was funded by HIA using the National Vegetable Levy and funds from the Australian Government.



## Review optimal cooking techniques for vegetables to maximise retention of nutrients.

### Facilitators:

Project VG13087 was completed by Dr Hazel MacTavish-West from MacTavish-West Pty Ltd.

## Introduction

Marketing vegetables using nutritional and health benefits has, until now, been significantly limited by the complexity of the regulatory framework governing the Australian horticulture industry.

Dr Hazel MacTavish-West, from MacTavish-West Pty Ltd, said making these benefits widely known and readily available to industry, stakeholders and the media could assist in contributing towards an increased consumption of Australian-grown vegetables.

“Asian vegetables, in particular, are growing in popularity and availability; however, there is still a lack of knowledge about how to source, prepare and cook them in a way that not only produces the best flavours, but guarantees optimum nutrition,” she said.

“Science tells us that cooking alters the colour, texture, taste and vitamin content of vegetables, which can impact on the health benefits obtained from their consumption.”

“While we cannot deny that certain methods of cooking can reduce some of the nutrients in vegetables, there are other techniques that can preserve them and even make them more bioavailable.”

## About the project

“This project was an extension of a previous project that established a web portal ([www.veggycation.com.au](http://www.veggycation.com.au)) to communicate the health benefits of vegetables to stakeholders, such as growers, dietitians and caterers,” Dr MacTavish-West said.

“After documenting the nutritional and health benefits, we wanted to review the impact of cooking on the texture, flavour, colour, nutrient and phytonutrient content, and bioavailability of all 105 levied vegetables, as well as the impact of other meal components, such as proteins, dairy, fat, salts and acids.”

The impact of canning and freezing vegetables on nutrient content was also assessed in response to demand from users of the website, with new research undertaken on Asian vegetables.

“A selection of Asian vegetables were cooked using techniques recommended by Asian cookery experts, and the Vitamin C (ascorbic acid) content analysed by an accredited laboratory,” Dr MacTavish-West said.

“Direct comparisons were also made between raw and cooked vegetables using database collation by Plant and Food Research, collaborators on the project.”

Since completed in November 2014, the project has developed a number of cooking recommendations for all levied vegetables which are summarised on the Veggycation® website.

Diagrammatic instructions for optimal cooking methods and recipes for Asian vegetables were also developed featuring both traditional and more mainstream themes.

## Major findings

Dr MacTavish-West said providing more information on the cooking and usage of vegetables made them more accessible to consumers.

She said the information drawn from the project's final report would also act as an important resource for teachers, health professionals, media and industry stakeholders to communicate to others.

"We receive regular requests to use the pictures and resources on [www.veggycation.com.au](http://www.veggycation.com.au) from dietitians, health charities and educators," Dr MacTavish-West said.

Dr MacTavish-West said a number of factors were considered when developing the recommended cooking methods.

"If a specific cooking method reduced the content of vitamins present in raw vegetables at source level (10 per cent of the recommended daily intake (RDI) per serve) to a level below source levels, this failed to become a recommended cooking method," she said.

"However, where the level of vitamins present in raw vegetables was already well above good source levels, and none of the cooking methods reduced them below this, any cooking method was deemed appropriate."

"Carrots are a good example. There are many benefits from eating both raw and cooked carrots regularly."

"They are one of the few vegetables that contain a good source level – well over 25 per cent of the RDI per serve."

"While some key nutrients may be reduced by cooking, others, such as Vitamin A from beta-carotene, are made more available to our bodies."

"Adding fat in the form of butter or oil increases our ability to absorb fat-soluble Vitamin A-forming carotenoids, while boiling and other cooking methods and cooking commercially frozen carrots can in fact reduce Vitamin C content below the 10 per cent RDI per serve."

## Recommendations

Dr MacTavish-West said the industry should take a more active role in educating and promoting the nutrition and health benefits of vegetables.

"There is a wealth of legally-approved information about the benefits of vegetables that growers could be communicating to consumers when they are making recommendations or developing products," she said.

"The Veggycation® website is an obvious resource – there is a section specifically tailored to growers and industry."

Dr MacTavish-West said 'next steps' included ongoing maintenance of the website and continued activity and communication with consumer groups to develop more targeted resources for specific demographics.

A 'sister' project is also currently underway, led by Plant and Food Research, which will expand some information on the website.



### THE BOTTOM LINE: VG13087

- Promoting vegetables based on health and nutrition benefits can help growers to differentiate their products in the marketplace.
- Enjoy vegetables raw or cook them by steaming, stir-frying or oven baking for the best flavour and nutritional value.

## Acknowledgements

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