

An aerial photograph of a vast vineyard with rows of grapevines stretching across a hillside. The scene is captured during sunset, with a warm, orange and yellow sky and soft lighting on the green leaves. The rows of vines create a strong sense of perspective and rhythm.

SUMMARY

# Nutraceutical Industry

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A roadmap for building the value chain for the nutraceutical industry in Australia.

**Sampano**

## About Us

Sampano is working towards achieving a fully Australian sourced, integrated and sustainable value chain for the nutraceutical industry.

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## Acknowledgments

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# WE ARE PLEASED TO DELIVER THIS ROADMAP FOR BUILDING A FULLY AUSTRALIAN NUTRACEUTICAL INDUSTRY.

This report is the culmination of 18 months research in which we set out to answer the question: Is it possible to build a local Australian value chain for the Nutraceutical Industry?

The short answer is yes, subject to three key challenges being solved. These are outlined on pages 12-13.

Just as important as the answer is the reason behind this question.

Over the last five years, the nutraceutical industry in Australia has seen extraordinary growth, which is projected to continue, especially off the back of exports to China and the broader Asian market.

The raw ingredients used in the manufacture of vitamin tablets, capsules and so on, are imported to Australia. For example, grapeseed extract and lycopene from tomatoes. These are all crops we have an abundance of in Australia, often with large quantities discarded as waste. We discovered a further 50 ingredients already grown locally and we met growers willing to try new crops as well.

Our interviews indicate that there is a strong appetite for growers and extractive processors to diversify, access new markets and participate in a new industry. The key is to ensure that everyone who wants to participate has the opportunity, in a manner that works to the advantage of each participant and not to the detriment of any. Our roadmap plans a path to achieve this.

There are also compelling socio-economic benefits to establishing this industry. The resulting employment, skills and infrastructure benefits are all positive outcomes.

Creating a new industry is both exciting and daunting. Our research indicates the best way forward is collaboratively, across all industry participants, as well as government, research institutes and the local communities in which these opportunities play out.

**I encourage you to explore this report and I invite you to join the discussion and participate.**

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**Adrian Spencer**

Founder and CEO · Sampano Pty Ltd



## **Carrot**

*Daucus Carota Sativa*

Vitamin A (from beta-carotene), biotin,  
vitamin K (phylloquinone), potassium  
and vitamin B6

## THE CURRENT STATE OF PLAY

\$1.1 Billion worth of ingredients are imported annually

...into Australia by contract manufacturers for use in products made for the Nutraceutical Industry. We believe these imports can be replaced with locally grown and refined inputs. Especially those derived from a botanical source.

Currently, there is no real coordination or established supply chain in Australia to source local ingredients.

We have very strong interest from farmers, growers and processors to be involved in the establishment of a local industry supplying both Australian and overseas manufacturers and marketers. Furthermore, there is strong demand from the marketers and manufacturers to buy locally grown inputs for use locally and for export.

The purpose of this research is to allow us to plan the creation and coordination of an educated and cohesive market for all players, to understand how this industry operates and to provide the opportunity to participate. This report details our assessment of the availability of participants, their current readiness, gaps and the next steps, as a roadmap. We identify each of the stakeholders and outline the steps that need to be taken to allow participation in the value chain.



**16%**

of Australians are concerned about the health and safety of imported ingredients.

**40%**

of Australians would prefer to buy Australian sourced ingredients.

### What is the Nutraceutical Industry?

Nutraceuticals contain ingredients isolated from foods that provide health benefits. They are generally sold as vitamins, health supplements and body care products. The nutraceutical sector is growing rapidly both domestically and in export sales.

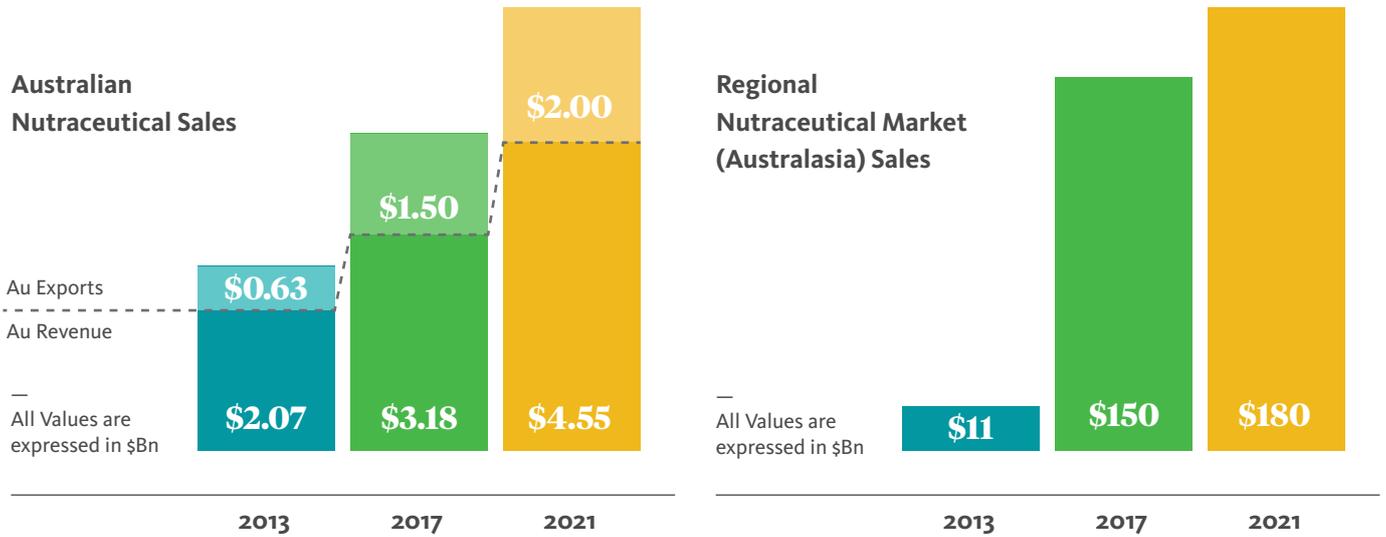
# AN INCREDIBLE OPPORTUNITY

The industry is experiencing sustained rapid growth, with significantly increased export demand for Australian grown and processed nutraceuticals.

Strong export growth is being driven from Asia, based on our reputation as a 'clean, green' country.

Despite local manufacture, the sector heavily relies on internationally sourced ingredients, with \$1.1 billion of ingredients imported into Australia annually.

This presents an opportunity, with strong demand from nutraceutical companies to source local, ethical, clean green ingredients, with a traceable source.



## It's time for Australia to participate

Major sources of raw ingredients for the worlds nutraceutical markets



# THE UP SIDE

Currently the value chain is not commercialised and no product has flowed through the system. We are just in the formation stage.

In fact, despite the extraordinary growth in nutraceutical sales in the last few years, there is not much reliable data available regarding the Nutraceuticals Industry in Australia, so we commissioned an economic assessment through REMPLAN. The economic benefits of replacing imported ingredients with locally sourced ingredients are outlined below.

Currently, we believe there are over 50 ingredients that could be sourced locally.

Our research also revealed that 31.1% of all industry enterprises are based in Victoria, which is ideal for coordination, transport and logistics, with our initiative being based in Victoria.

## CURRENT

Industry snapshot (2016) - with no local growers or processors:



**7%** Conservatively, over 7% annual growth is projected for this industry to 2021

## REPLACE ONE IMPORTED INGREDIENT

Just **1** ingredient, grown and processed in Australia



Consider one sample ingredient, for which 35,000 kilograms is imported annually at a value of \$50 per kilogram.

## REPLACE 50 IMPORTED INGREDIENTS

**50** ingredients, grown and processed in Australia



Examples of ingredients needed:

- Grape Seed Extract
- Sweet Orange
- Celery Seed
- Plums
- Tomatoes

# THE VALUE CHAIN

## The Good News

An Australian Nutraceutical Value Chain does not need to be created from scratch. In fact, most of the elements are already in place. Essentially, the establishment of an Australian Nutraceutical Value Chain must connect the food industry to the nutraceutical industry.

The food industry is well established and mature – across both fresh food markets, for fruit and vegetables, as well as the processed food industry. Many within the existing food industry are looking for diversification and access to new markets. They also consider drought proof crops, transformation of waste and by-products as highly desirable. This provides the perfect opportunity to leverage existing ingredients, farm land and infrastructure.

Our study has confirmed that there is:

1. Strong interest from all aspects of the value chain to be involved in a locally sourced Australian supply chain for the nutraceutical industry; and
2. There are specific barriers that must be resolved for this to occur.

Small scale demonstrations and case studies will lead to confidence and potentially large-scale trading.

## The Main Participants



# PARTICIPATION



## Growing

There is strong interest from growers to be involved in establishing an Australian Nutraceutical Value Chain. Simply put – they wish to access new markets, diversify their products (and income) and they wish to access high value markets both locally and overseas. Non-arable land can be used for growing crops and there is interest in growing drought proof crops.



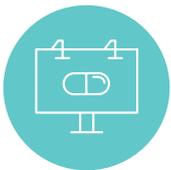
## Processing

The biggest obstacle in the progression of the industry is the investment of processing equipment. Since the production of nutraceutical products rarely uses the whole raw ingredient, there is a strong reliance on extraction of the active ingredient. For example, lycopene is derived from tomatoes and grapeseed extract from the grape marc. However, very little of this processing equipment exists in Australia. In order to invest in processing equipment, the food processors in the industry want more evidence of market demand and access to turn-key solutions.



## Contract manufacturers

These manufacturers work on behalf of the marketing companies to produce vitamins, supplements etc and will source their raw ingredients from the local processes if instructed by the Marketing companies. While they have strong and well-established international supply chains for sourcing ingredients, they are not connected into the local market and do not know where to find or source the ingredients their clients are after, within Australia.



## Marketers

The Marketing companies are looking to place orders. They just need to agree to quantities, price and ingredient specification. Agreeing to quantities and price are fairly straight forward and the marketers may be willing to pay a premium for locally grown where they perceive market appreciation for 'Clean Green Australian Ingredients'. Determining specification is somewhat trickier, because it is usually based on the unique properties of an ingredient and cannot necessarily be matched, so instead an alternative must be agreed upon.



## Retail & Export

Export markets are open to new products as well, such as Indigenous. Australia generally follows the US and Europe for health trends but there is a desire to research and create its own unique footprint in the world market. There is a clear opportunity for this with Australia's existing clean and green reputation and emerging reputation in export markets for leaders in organic, and 'free from' products such as gluten and sugar free.

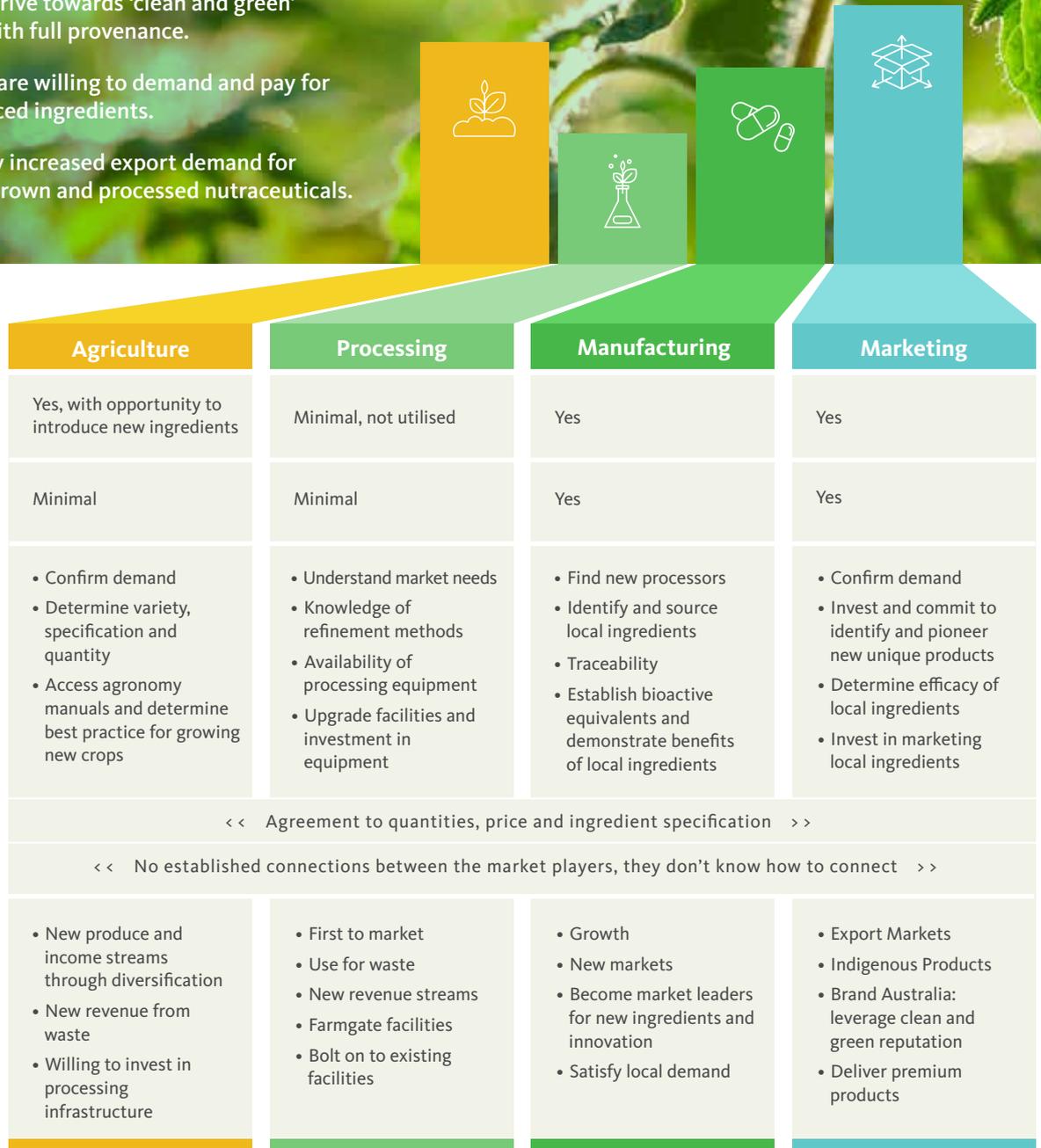
# THE VALUE CHAIN PROPOSITION

## \$1.1 Bn

imported ingredients into Australia for the nutraceutical sector with strong growth and demand for nutraceutical innovations

### Market Drivers

- Consumer drive towards 'clean and green' products, with full provenance.
- Consumers are willing to demand and pay for locally sourced ingredients.
- Significantly increased export demand for Australian grown and processed nutraceuticals.





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## Tomato

*Solanum lycopersicum*

Lycopene, vitamin C, potassium, folate,  
and vitamin K.

# ACTION PLAN

*“This complex and difficult problem cannot be addressed by any one company. It requires a coordinated, collaborative response, from business, industry, research entities and government, to realise this opportunity.”*

## NEED

### KEY CHALLENGE

#### Access & Connect

The ability for each of the value chain participants to directly access a vendor or supplier.

Currently, they have no way to find each other and are isolated despite a strong desire to connect and trade.

### OBSERVATIONS

*“There were no direct connections between the Participants across industry.”*

*“In the end, this supply chain analysis reveals that there are currently no direct links into the Australian supply chain for nutraceutical ingredients from the food and fibre supply chains, as they currently operate. However, opportunities do exist from within the traditional food and fibre supply chains to get involved.”*

## ACTION

### INDUSTRY

Deliver an online portal to allow open access to all participants to become active in the market. This will facilitate direct trading and access to all Value Chain participants.

Develop customisation for ingredient categorisations, trading, payment gateway, anti-fraud and traceability tools.

### GOVERNMENT

Promote the opportunity, benefits and plans for the industry.

Financial support for new aspects of development, including traceability.

Government at all levels can create a conducive environment through policy settings that support an integrated, science-based, product development approach and encourage innovation.

### RESEARCH

Categorise current industry specifications and extractive processing technology for site customisation.

Review of active ingredient claims and efficacy.

Share traceability technology, adapt block chain methods and apply IoT applications.

### COMMUNITY

Disseminate information through local networks.

Express community desire, need and/or ability to participate and support this endeavour.

#### Processing Challenge

Most extractive processing capability doesn't exist in Australia and will require new facilities.

If processing sites are to be built in Australia there may be an element of risk, requiring large investment, which will need support.

*“0.01% of ingredients come from Australia”*

*“An Australian coordinated nutraceutical supply chain is possible, but it must be nurtured and grown by identifying small nutraceutical ingredient growers and linking them into a processing capability and then into the value chain of the industry.”*

Growers, companies or groups to invest in the development of Greenfield sites:

1. Small scale, farm gate operations; and
  2. Regional centralised processing.
- And Brownfield sites:
3. Upgrades to existing processing to allow extraction of bioactives from core production or waste.
  4. Large scale processors to incorporate additional production lines.

If processing sites are to be built in Australia there may be an element of risk, requiring significant investment, which will need government support.

Provide strategic planning support.

Provide direct liaison with statutory planning to assist with site development and other departments as required.

Recommend most suitable technology, including review of available technology vs new requirements.

Provide efficacy of existing and emerging products.

Support scale up of new technology and methods.

Coordination of local hubs and grower groups.

Identifying and sharing existing facilities and storage needs.

Work with local leadership groups to verify suitability and facilitate local feasibility.

#### Knowledge

The Nutraceutical Industry is poorly understood by those not currently involved. This presents a significant barrier to entry. For example, training needs to be provided in relation to specifications and how to grow, refine and standardise source ingredients.

Efficacy, bioequivalents and active ingredients need to be well explained and supported for those wishing to displace existing imports.

*“The building and coordination of this industry sector would have more chance of success in Victoria if it was sponsored as a state-wide project rather than for a single region.”*

Work with existing channels to share information, including a Victoria wide Information Roadshow, introducing the Nutraceutical Industry:

- Background on the industry: what it is and how the industry works.
- Information and tools on how to become involved.

Provide awareness and deliver content, creating clear steps to become involved.

Present case studies and bring representatives and experts from industry groups.

Formally make this an official industry priority, with support to:

- Make this a talking point.
- Attend and support roadshow.
- Create awareness through contacts and channels.
- Distribute information.

Provide availability of:

- Knowledge,
  - Services and
  - IP
- through sharing, collaboration and service agreements.

Support for facilitation and dissemination of knowledge at a local level.

Involvement and assistance to deliver regionally, with local support for networking and venues in locations such as: Ballarat, Bendigo, Geelong, Horsham, Mildura, Shepparton, Traralgon, Wangaratta, Warrnambool and Wodonga.

# TIMEFRAME

Jan-Aug  
**19**

**Map out potential ingredient suppliers**  
RESEARCH AND PRELIMINARY ACTIVITY



Aug-Dec  
**19**

**Map out existing processor capability**  
RESEARCH AND PRELIMINARY ACTIVITY



January  
**20**  
onwards

**Trading Platform with traceability and knowledge system**  
TRADING COMMENCES: THE AUSTRALIAN NUTRACEUTICAL VALUE CHAIN BEGINS



January  
**20**  
onwards

**Invest in Processors**  
BUILDING FOR GROWTH



Jun - Dec  
**20**

**Education Roadshow**  
ROLL-OUT AND BROAD AWARENESS, LEADING TO WIDE SPREAD PARTICIPATION



Some produce that  
can be used for  
nutraceuticals:

Bay Leaf  
Birch  
Blackberry  
Camellia  
Celery  
Chamomile  
Cherries  
Coconuts  
Cranberries  
Dairy  
Finger Lime  
Geraniums  
Grapes  
Hops  
Kakadu Plum  
Lemon  
Lingonberries  
Marine Algae  
Milk Thistle  
Oats  
Olives  
Orange  
Plum  
Propolis  
Prickly Pear  
Raspberries  
Roses (RoseHip)  
Saw palmetto  
Sea Buckthorn  
Sea Kelp  
Seaweed  
Sunflowers  
Tomato  
Tumeric  
Valerian  
Watermelon

+

## **Broccoli**

*Brassica oleracea*

Vitamins K and C, folate (folic acid),  
potassium and fibre.

# Sampano

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