



Zespri® Scientific Pack

Nutrition
& Health Attributes
of Kiwifruit



Index

Zespri® Research	03
• Introduction	05
• Zespri® Scientific Activities	05
• Strategic Research and Scientific Advisory Steering Group	06
• Regulatory Relationships	07
• International Research Partnerships	07
Nutrient Richness	09
• Zespri® Kiwifruit Consistently Rank as One of the Most Nutrient Rich Fruits	11
• Kiwifruit Has a High Vitamin C Content	15
• Kiwifruit Facilitates Iron Uptake	16
• Kiwifruit is Rich in Fibre	16
• Kiwifruit is a Good Source of Potassium	17
• Kiwifruit Has a High Level and Variety of Antioxidant Vitamins and Phytonutrients	18
• Kiwifruit is a Natural Source of Folate	19
• Conclusions	20
• References	21
Digestive Health	23
• Common Digestive Disorders Cause Significant Discomfort	25
• Kiwifruit Components Effect on Gastric and Intestinal Digestion	26
• Kiwifruit as a Digestive Aid: What is the Evidence?	29
• Upcoming Research	35
• Conclusions	36
• References	37
Vitamin C and Health	39
• Vitamin C is an Essential Vitamin that Cannot Be Synthesised by the Human Body	41
• Vitamin C Has an Important Role in Human Metabolic Processes	42
• How Much Vitamin C Do We Need?	43
• One Zespri® Kiwifruit a Day Gives the Daily Requirement of Vitamin C	44
• Zespri® Kiwifruit is Very Effective at Increasing Plasma Levels of Vitamin C	44
• Kiwifruit and Vitamin C-Related Health: What is the Evidence?	45
• Upcoming Research	55
• Conclusions	56
• References	57
Metabolic Health	59
• Kiwifruit Has a Low Glycaemic Index	61
• Kiwifruit Modulates Carbohydrate Digestion and Absorption	62
• The Glycaemic Response Per Kiwifruit Is Low	62
• Kiwifruit Can Help Manage Blood Sugar Levels in People With Diabetes	63
• Kiwifruit Affects Gut Microbiota	63
• Kiwifruit and Metabolic Health: <i>In Vitro</i> and <i>In Vivo</i> Studies	63
• Upcoming Research	65
• Conclusions	66
• References	67

Zespri®
Research

Zespri® Research

Introduction

Welcome to the Zespri® Scientific Pack, where you will find a high-quality body of evidence on the nutrition and health attributes of kiwifruit. At Zespri® we believe in the integrity of our product, and in order to build trust with our loyal consumers, we know the importance of demonstrating the scientific efficacy of our kiwifruit.

This Scientific Pack provides authorities, health advocates and the scientific community with an overview of evidence-based findings on the nutritional profile and health benefits associated with consumption of kiwifruit, including underpinning fundamental science explaining the mechanisms of observed outcomes. The pack includes current and emerging data in four core areas:

- Nutrient Richness
- Digestive Health
- Vitamin C and Health
- Metabolic Health

Zespri® Scientific Activities

In 2008, Zespri® put in place a world-class health and nutrition research programme around the health benefits of kiwifruit by joining forces with the Riddet Institute to form the Strategic Research and Scientific Advisory (SRSA). The Riddet Institute is a New Zealand government-funded Centre of Research Excellence with a widely acknowledged international standing.

The main aims of the SRSA are to ensure that Zespri® research projects are independently reviewed by experienced and respected scientists in the nutrition and health field. The projects are considered for their fit with the overarching Zespri® Health Strategy and the SRSA also reviews the scientific protocols and ensures that the research provider is the best science team for the required work. The composition of the steering group has been carefully put together to cover the range of activities that we are working on, such as laboratory-based research, animal model research and human clinical trials.

Strategic Research and Scientific Advisory Steering Group



Dr Juliet Ansell
DPhil (Oxon):
Innovation Leader Health
& Nutrition at Zespri
International Ltd



Dr Abby Thompson
PhD, BTech: Director of
Riddet Innovation at
Massey University



Lynley Drummond
BSc: Strategy, Innovation
& Science advisor
at Drummond
Food Advisory Ltd



Dr Jocelyn Eason
BSc, PhD, MBA: General
Manager Food Innovation
at Plant & Food Research



**Professor
Richard Geary**
MBChB, FRACP, PhD:
Professor of Medicine at the
University of Otago



**Distinguished
Professor Paul Moughan**
BAgrSc (Hons), PhD, DSc,
Hon DSc, FRSNZ, FRSC:
Co-director of the Riddet
Institute at Massey
University



Dr Véronique Parmentier
BSc, PhD:
Global Health Marketing
Manager at Zespri
International Ltd



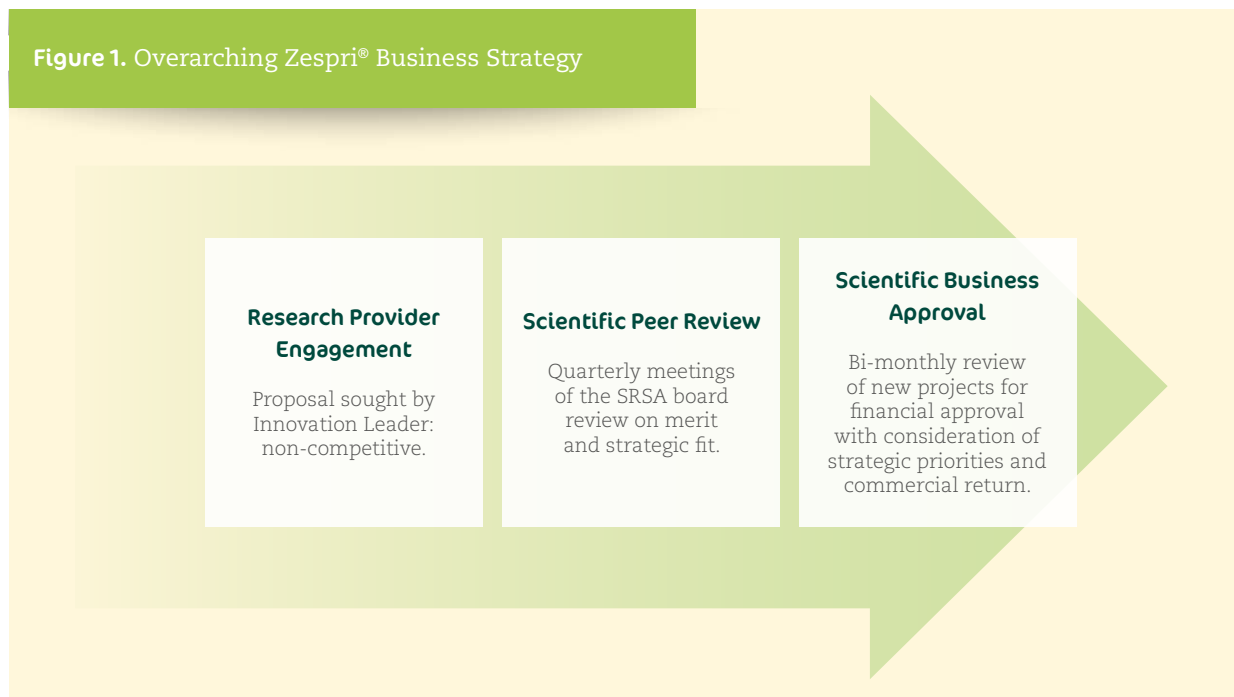
**Professor
David Richardson**
BSc, MSc, PhD, FIFST, FRSM:
Specialist Consultant in
Nutrition and Food Science



Carol Ward
General Manager
Marketing at Zespri
International Ltd

Although all projects pass by the SRSA board for scientific merit and strategic fit, the ongoing clinical trial project management and troubleshooting is carried out by a smaller team. This consists primarily of Professor David Richardson, Professor Richard Garry, Lynley Drummond and Dr Juliet Ansell, with principal investigators for each country involved in protocol development and ongoing trial management.

Figure 1. Overarching Zespri® Business Strategy



Zespri® has established a number of research partnerships in New Zealand and internationally, who provide world class input into nutrition and health science.

Regulatory Relationships

Zespri® works in accordance to European Food Safety Authority (EFSA) guidelines and the Australia New Zealand Food Standards Code and in conjunction with the Ministry for Primary Industries, New Zealand.

International Research Partnerships



