



# Omega Lamb Primary Growth Partnership Programme Evaluation

Commissioned by Ministry for Primary Industries | Manatū Ahu Matua

Completed by Maven Consulting Limited

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**Ministry for Primary Industries**  
Manatū Ahu Matua



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## Contents

<b>1.0</b>	<b>Executive Summary</b>	<b>4</b>
<b>2.0</b>	<b>Background and Scope</b>	<b>8</b>
<b>3.0</b>	<b>Approach to this Review</b>	<b>11</b>
<b>4.0</b>	<b>Objectives and Outcomes</b>	<b>12</b>
4.1	Omega Lamb Programme Vision	12
4.2	Prior State of the Industry and Background to the Programme	12
4.3	Opportunities	13
4.4	Programme Structure and Timing	13
4.5	Programme Economic Benefits	14
4.6	Overall Programme Aims	14
4.7	Projects, Objectives and Sub-Projects	14
4.8	Reset Phase 2019-2022 Objectives	16
4.9	Extension Phase 2023-2024 Objectives	17
<b>5.0</b>	<b>Achievement of Objectives and Outcomes</b>	<b>18</b>
5.1	General Comments on Assessment	18
5.2	Achievement of Programme Economic Benefits	18
5.3	Achievement of Overall Programme Objectives	19
5.4	Achievement of Project and Sub-project Objectives	20
5.5	Achievement of Reset Phase 2019 – 2022 Objectives	26
5.6	Achievement of Extension Phase 2023 – 2024 Objectives	28
<b>6.0</b>	<b>Programme Delivery</b>	<b>29</b>
<b>7.0</b>	<b>Lessons Learned</b>	<b>32</b>
	<b>Appendix 1: Evaluation Plan</b>	<b>35</b>
	<b>Appendix 2: Documents Reviewed</b>	<b>38</b>
	<b>Appendix 3: Programme Objectives and Outcomes</b>	<b>39</b>
	<b>Appendix 4: Glossary</b>	<b>47</b>
	<b>References</b>	<b>48</b>

## 1.0 Executive Summary

This report was commissioned by the Ministry for Primary Industries (MPI) to evaluate the success of the Omega Lamb Programme following its completion in September 2024. Its scope was to address the following questions:

- Outcomes - what has been accomplished by the programme so far and what are its benefits to New Zealand into the future?
- Execution - how well has the programme been executed?
- Lessons learned - what are the lessons from the programme and implications for other programmes and to MPI's Investment Programmes as a whole?

The Omega Lamb Programme was a 9-year Primary Growth Partnership between MPI and High Health Alliance (a joint venture between Headwaters NZ Limited and Alliance Group Limited). It commenced in 2015 with an initial investment of \$25 million, funded jointly by MPI and the industry partners, and was intended to run for seven years. The programme was extended twice, firstly by six months to recognise delays due to the Covid-19 pandemic, and then to September 2024, with an increase in funding to a total of \$28.7 million, by agreement between the partners.

The programme built on earlier work done by Headwaters and Alliance that had identified an opportunity to create a premium New Zealand lamb product with unique health and nutrition characteristics that would appeal to consumers' lifestyle and food origin preferences. The partners understood that delivering the unique value proposition would require a focus on all elements of the value chain, starting with understanding the consumer, the breeding and raising of lambs, the processing of the meat, and the supply and marketing of the products. The aim was to align all these elements to deliver a product that would command a sustainable premium over commodity lamb, which would be returned to the participants.

The programme substantially achieved its goals, with the highlights being:

- Building an integrated and sustainable value chain that produces premium lambs that are processed into high-value consumer products under the Lumina Lamb brand, which are sold at a significant margin over commodity lamb.
- Creating a community of farmers with the knowledge and capability of producing Lumina lambs of consistent quality through breeding, forage and farm management.

## Omega Lamb Primary Growth Partnership Programme Evaluation

- Scaling production to approximately 185,000 lambs in 2024, while maintaining target premium returns.
- Developing new consumer products and achieving a premium carcass utilisation in excess of 60%.
- Building new markets for Lumina Lamb, particularly in the high-end food service, through effective consumer research, brand development, highly-targeted marketing, exclusive supplier agreements and consistent product supply.
- Implementing technologies at all stages of the value chain that provide on-farm management, traceability, quality control, carcass selection and payments.

The programme structure and objectives changed over several phases, both to exploit new opportunities and challenges as they arose in the programme. Early consumer testing revealed that a focus on the consumer experience of taste and texture, rather than health attributes, was likely to provide a more immediate and tangible value proposition, and this led to a focus on marketing to high-end food service rather than to the general consumer market. It also meant the product development focus changed to premium cuts likely to appeal to chefs and restaurant customers rather than home consumer products.

The programme faced challenges in the initial phase in scaling up production and in building the premium carcass utilisation, with the result that the net premiums paid were low. A programme reset in 2019 refocused effort around three core objectives of:

- Delivering the ultimate lamb.
- Further utilising the animal for profit.
- Future scaling of lamb supply and processing.

Covid-19 severely disrupted the global food service market as well as impacting the lamb supply, processing and distribution operations. The programme responded well by using the downtime to engage with chefs in key food service markets, increasing awareness of the Lumina product and value chain, and building the potential for a strong recovery once lockdowns had ended.

The programme reset and the work done over the Covid-19 period set up the programme to deliver significant growth in lamb numbers, carcass utilisation and premiums paid over the next several years.

The 2023-2024 extension aimed to consolidate these gains, optimise the genetics and use of forage in the production of Lumina lambs, improve predictability of livestock through the value chain, address issues with the scanning technology in the processing

plants, and build sales and distribution in new markets. However, by June 2024, global lamb commodity prices had dropped and Lumina Lamb production was getting ahead of sales, and this contributed to a drop in the premium returns and the payout to farmers.

The programme did not achieve its overall targets of 500,000 lambs per year processed and a reduction in on-farm costs, but these goals were perhaps unrealistic for what was in effect a start-up business producing a premium product. The programme has proven that it can scale production and processing of lambs while maintaining the premium characteristics and carcass utilisation, and the current marketing model of targeting high-end food service and retail in selected cities in key markets seems to have almost unlimited potential. The longer-term goal of growing to one million lambs will require significantly greater scaling of production, expansion of marketing and distribution networks to new markets, and further product development to ensure utilisation and premium returns are maintained. The targeting of the “high health” market remains an untapped opportunity.

The programme struggled with implementing an effective governance model in its early phase, with a lack of clarity between the functions of the partners as suppliers to the programme and their joint venture roles. The initial programme management team also struggled due to a lack of resources and overlapping roles. These issues led to the 2019 programme reset, which resulted in changes to governance, management and the programme vision. These changes appeared to produce immediate results in resolving some of the issues that had hampered progress early on, and the governance and management of the programme worked much more effectively from that point on.

Lumina Lamb today is in many ways an exemplar for the New Zealand primary produce sector of how to add value and attain premium returns for what would otherwise be a commodity product. The programme brought together farmers, scientists, processors, marketers, chefs and retailers in a common interest in developing, launching and growing a high-end food product, starting with identifying the factors that differentiate the product, ensuring those factors can be replicated consistently as production is scaled, finding the markets that are willing to pay a premium for the differentiated characteristics, and building the sales and distribution network to ensure the returns are realised. But as with any growing business, ongoing investment will be necessary to build production volumes, undertake further product innovation, and fund sales and distribution into new markets. Some refinement of the business structure and premium returns distribution model may be necessary to support this growth.

Lumina Lamb is a system as much as a product and a brand, and there is potential for it to be expanded to other New Zealand food products, utilising a similar combination

of genetics, sustainable farming, selective processing and exclusive branding, or even to New Zealand luxury products more broadly.

## 2.0 Background and Scope

Primary Growth Partnership (PGP) was a government-industry partnership fund that invested in significant programmes of research and innovation to boost the economic growth and sustainability of New Zealand's food and fibre industries, and is now part of Sustainable Food and Fibre Futures (SFFF). SFFF has encouraged more private investment in research and development in New Zealand's primary sector and shares the risk inherent in ambitious, large-scale transformational initiatives which may not proceed without government involvement.

The Omega Lamb PGP was a nine-year partnership programme between MPI and High Health Alliance.

High Health Alliance, which was established to manage the programme, is a joint venture between:

- Headwaters NZ Limited, an animal genetics and supply management company owned by sheep farmers and others with an interest in the NZ sheep industry.
- Alliance Group Limited (AGL), a meat processor and marketer that is fully-owned by farmer shareholders in a cooperative structure.

The Omega Lamb Programme aimed to create an exclusive lamb products business based on health and quality attributes created through genetics, farm practices, selective forage and product marketing. The partners in the programme sought to differentiate their product by focusing on all elements of the supply chain from farm to consumer plate. It was intended that the model would be an example to the red meat sector.

The Programme commenced in 2015 and had an initial investment of \$25m, funded jointly by MPI and the industry partners, and was intended to last seven years. The aims of the programme were to:

- Develop farm systems more competitive with other land uses than current hill and intensive sheep-based systems.
- Build a 500,000 head/year lamb value chain with a 5% net reduction in on-farm costs and demonstrated benefits for consumers of the lamb.
- Deliver at least three new consumer-focused health products, with the potential to increase market returns from a carcass by 30%.
- Earn a 10% increase in market return on products from at least 200,000 lambs with high health attributes.

- Develop a business plan and investment to expand the “High Health” value chain to one million lambs.

The consumer products developed in the programme were originally marketed under the brand “Te Mana”, but this was unable to be trademarked in New Zealand, and around 2020, “Lumina Lamb”<sup>i</sup> was selected as the new brand name.

The programme was extended twice, firstly by a time-only extension of six months offered to all PGP programmes to recognise delays due to the COVID-19 pandemic, and then in January 2023 HHA and MPI agreed a term and value extension, making the programme end date 30 September 2024 and increasing funding to a total of \$28.7m. The purpose of the second extension was to enhance the outcomes from the programme primarily by supporting scaling of the business. The extension retained the original goals and targets and added a focus on several key gaps standing in the way of further growth and development of the value chain.

This report was commissioned by MPI to evaluate the success of the programme following its completion in September 2024, specifically to address the following questions:

- Outcomes - what has been accomplished by the programme so far and what are its benefits to New Zealand into the future?
- Execution - how well has the programme been executed?
- Lessons learned - what are the lessons from the programme and implications for other programmes and to SFFF as a whole?

The following tasks were in and out of scope of this evaluation:

*In-scope:*

- Establishing the effectiveness of processes used to develop and maintain the programme’s Outcome Logic Model, Benefits Register and Business Case.
- Reviewing the findings and recommendations of the programme’s planning, governance and management documents, progress reviews and audits.
- Assessing how benefit profiles have been updated in response to emerging intelligence, information, research, investigations, and evaluations.
- Assessing how risks to the realisation of benefits have been updated.

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<sup>i</sup> The Lumina name has come to be associated with the programme as well as the products; however, for clarity this evaluation will refer to the programme as the Omega Lamb Programme and the products as Lumina Lamb.

## Omega Lamb Primary Growth Partnership Programme Evaluation

- Assessing how MPI communications, engagement and relationship management practices have contributed to effective programme governance and execution.
- Assessing the assumptions made in modelling and forecasting benefits.

### *Out-of-scope:*

- Assessing the programme's alignment with current Government policy.
- Critiquing the PGP/SFFF model and the rationale for investing in the programme.
- Assessing the quality of intelligence, information, research, investigations, audits, and evaluations used by the programme's workstreams and projects.
- Assessing how MPI has revised baselines for financial, economic, and other benefits in the period after programme completion.
- Assessing MPI monitoring and forecasting processes.
- Assessing engagement and relationship management practices after programme completion.
- Re-modelling or re-forecasting benefits.
- Evaluating the reasons for the programmes being approved<sup>1</sup>.

This report is the principal output of the evaluation. A version has also been prepared for public release.

## 3.0 Approach to this Review

Maven Consulting Limited was engaged to conduct this evaluation. The approach included the following phases and tasks:

1. Desk-based review of the programme documentation including the business plan and annual plan updates, the PGP agreement and variations, progress reporting and relevant research reports, technical reports and audit reports.
2. Semi-structured interviews with key stakeholders including the programme manager, programme partner personnel, relevant contractors and consultants, programme governance group members, advisory group and working group members, and MPI staff involved in the programme.
3. Analysis of key themes from desk research, stakeholder interviews and additional data collection, and development of conclusions against the review questions. Validation of the findings with key MPI staff.
4. Development of a report and recommendations, including a publicly-available version of the report.

The author thanks all participants for their contribution, and particularly thanks the programme team and MPI for their support for this evaluation and the documentation they provided.

A detailed plan for this evaluation is included in Appendix 1.

## 4.0 Objectives and Outcomes

### 4.1 Omega Lamb Programme Vision

The original vision for the Omega Lamb Programme as outlined in the 2014 Business Plan was to:

*Transform lamb from a protein commodity into a sought-after natural health food using consumer insights and world leading New Zealand science.*

### 4.2 Prior State of the Industry and Background to the Programme

New Zealand is the second largest exporting nation in the comparatively small global sheep meat trade, driven by a production base that produces far more sheep meat than is consumed domestically. Traditionally, our sheep meat exports went to the United Kingdom, Europe and North America, but as parts of Asia, the Middle East and Africa adopt more of western cultures and consumers seek the proteins associated with western diets, these newer markets have been expanding.

New Zealand lamb is recognised internationally for quality and as a symbol of our natural production systems. However, sheep farming in New Zealand is largely a commodity industry. Declining returns and profitability have resulted in conversion to dairy and more recently, forestry and carbon farming have also taken large amounts of traditional sheep and beef country.

Improvements in breeding, farm practices and the marketing of lamb products were being made in the years prior to the Omega Lamb Programme, but these efforts were not sufficient to address the rapid decline in sheep farming returns. A heavy focus on reduction in saturated fats, in line with health concerns at the time, had led to the development of very lean animals at the cost of both eating quality and animal survivability (particularly in New Zealand high country farms).

It was apparent to the initial stakeholders in the programme that a more significant set of initiatives was necessary to create an optimal consumer product, enhance animal welfare, and create a sustainable and profitable value chain for premium New Zealand lamb. The early focus of this work was to increase the levels of omega-3 and polyunsaturated fatty acids in the meat, thereby improving both health attributes and eating quality.

The programme built on earlier work by Ovita (NZ) Limited, Beef and Lamb NZ and Headwaters NZ Limited, forming with Alliance Group Limited (AGL) what initially was

known as the AHO Programme. In 2014, Alliance and Headwaters formed the High Health Alliance (HHA) joint venture company to manage what became known as the Omega Lamb Programme, and in October 2014, HHA presented a business plan to MPI for joint funding under the PGP policy.

### **4.3 Opportunities**

The 2014 Business Plan outlined an opportunity to create a unique value proposition for consumers around a differentiated New Zealand lamb product that in particular emphasised the following attributes:

- Health – the enhanced nutritional profile of free-range lamb and the willingness of consumers to pay a premium for high health attributes.
- Lifestyle – the appeal of quality meat products as a symbol of affluence, particularly to Asian consumers.
- Food safety and origin – the ability to guarantee traceability of product from a safe origin.

The opportunity was enabled by scientific research by Headwaters that established that intramuscular fat levels were highly heritable, and the nutritional profile could be enhanced, with increased levels of polyunsaturated fat, omega-3 oils and other nutrients in the meat, through a combination of selective breeding and forage.

While improving the taste and eating experience was not initially seen as the most significant opportunity, it was a challenge that needed to be addressed, particularly because the focus of the industry on addressing consumer concerns about saturated fat levels over the previous two decades had impacted upon the taste and texture of lamb. The programme hoped to create a product that delivered benefits in both health and eating quality.

The partners understood that delivering the unique value proposition would require a focus on all elements of the value chain, starting with understanding the consumer, the breeding and raising of lambs, the processing of the meat, and to the supply and marketing of the products. The opportunity was to align all these elements to deliver a product that would command a sustainable premium over commodity lamb that would be returned to the participants.

### **4.4 Programme Structure and Timing**

The programme structure and objectives changed over time and for the purposes of this evaluation it is considered that there were three main phases:

- Initial Phase: 2015 – 2019
- Reset Phase: 2019 – 2022 (including a six month Covid extension)

- Extension: 2023 – 2024<sup>ii</sup>.

The programme workstreams changed over these phases as knowledge of the opportunities and potential responses developed and specific objectives were agreed. There was a significant reconfiguration of the governance and programme team at the beginning of the Reset Phase in 2019.

#### **4.5 Programme Economic Benefits**

The 2014 Business Plan stated that the programme had the potential to deliver over \$400 million in additional export value to New Zealand over 25 years, producing a net present value (NPV) of \$225 million attributable to the Government's investment – a nineteen-fold return on investment<sup>2</sup>. This was based on key assumptions in the Business Plan including achieving the quantitative and qualitative objectives set out below.

#### **4.6 Overall Programme Aims**

The overall aims of the programme were as follows:

1. Develop farm systems that are more competitive with other land uses than current hill and intensive sheep-based systems.
2. Build a 500,000 head/year lamb value chain with a 5% net reduction in on-farm costs and demonstrated benefits for consumers of the lamb.
3. Deliver at least three new consumer-focused health products, with the potential to increase market returns from a carcase by 30%.
4. Earn a 10% increase in market return on products from at least 200,000 lambs with high health attributes.
5. Develop a business plan and investment to expand the “High Health” value chain to one million lambs<sup>3</sup>.

#### **4.7 Projects, Objectives and Sub-Projects**

The programme as proposed in the 2014 Business Plan had four projects, each with overall objectives, and a number of delivery sub-projects, which had specific objectives, as set out in the table below.

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<sup>ii</sup> Note that the Omega Lamb Programme Final Report refers to the Initial Phase as Stage One and the subsequent phases as Stage Two.

Table 1 – 2014 Business Plan Projects, Objectives and Sub-projects<sup>4</sup>

Project	Objective	Sub-projects
New Class of Lamb	Provide the tools, technology, forages and proven farm systems to cost effectively produce a differentiated high-health lamb product on a large scale.	Animal Genetics
		Forage Genetics
		Pilot Project
Market Insights	Establish a global understanding of potential markets, channels, consumer trends and consumer behaviour relevant to our high-health lamb product.	Market Prioritisation & Segmentation
		Routes to Market
		Consumer Understanding
		Health and Wellness
Product Innovation	Build and implement a high health product innovation, development and evaluation pipeline in order to achieve our objective of gaining premiums in high-end markets.	Commercial Model
		Prototype Development
		Pilot Production
		Consumer Evaluation
Value Integration	Vertical and horizontal integration of the high-health value chain to deliver an ongoing cycle of dynamic benefits.	New Value Chain Models
		Product Traceability Technologies
		Horizontal Integration
		New Opportunities

#### 4.8 Reset Phase 2019-2022 Objectives

The 2019/20 Annual Plan proposed a reset of the programme covering the governance and management of the programme<sup>iii</sup>, and the vision, objectives and workstreams.

The new vision had three components:

1. Novel value chain: To deliver a new cooperative value chain to capture the value of OLP's unique value proposition.
2. Market ownership: To own Tier 1 foodservice markets for lamb in selected markets.
3. Ongoing HHA viability: To build High Health Alliance as a viable standalone entity that endures and grows beyond the Primary Growth Partnership contract.

The programme was restructured around three core objectives, which align to the three components of the vision:

1. Delivering the ultimate lamb: Combining farm systems, feeds, animal genetics, hyperspectral scanning, processing methods and eating quality assessment to deliver the ultimate lamb.
2. Further utilising the animal for profit: Using market insight to guide the development of market strategies, market development and branding to make more profit from every animal. Utilising more of the Omega Lamb carcass in premium-earning markets and products.
3. Future scaling: Building the ongoing business of HHA by commercialising hyperspectral scanning, growing the ultimate lamb supply, recruiting new breeders and finishers, developing cost-effective ram supply and communicating the benefits of the new value chain to participants. This objective will ensure that HHA and the value chains it has created are viable beyond the term of the PGP programme<sup>5</sup>.

Each of these objectives had workstreams associated with them and specific targets for each, although the vision and overall objectives remained the same.

The 2020-21 Annual Plan introduced additional three-year plan intentions that addressed the additional challenges posed by the Covid-19 pandemic and covered:

- Survival – preserving the value chain that had been built, cutting costs and improving communications across the value chain.

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<sup>iii</sup> The changes to the governance and management of the programme are discussed in Section 6.0 Programme Delivery.

- Emerge – expanding the supply of premium-earning lambs including refining the breeding model to use non-Omega terminal sires.
- Scaling – preparing for the recovery of the global food service market<sup>6</sup>.

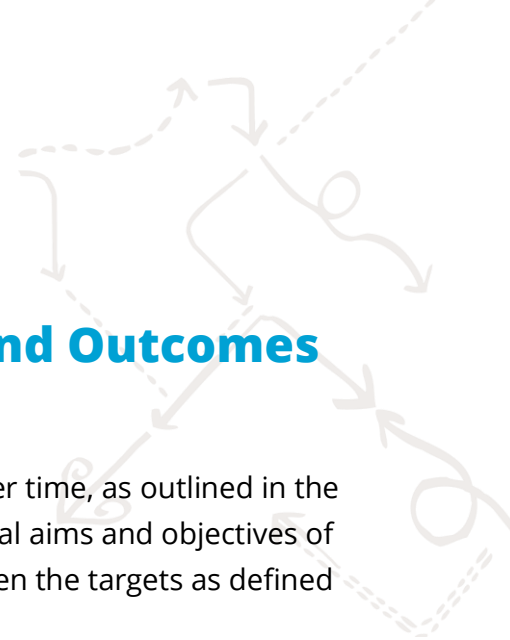
An additional objective in the 2020-21 Plan was to resolve the issues with Te Mana brand by developing a new brand<sup>7</sup>.

#### **4.9 Extension Phase 2023-2024 Objectives**

The Extension Phase 2023 - 2024 introduced new objectives in addition to the overall goals in order to focus work on addressing several key gaps in the further development of the value chain. These objectives covered:

- Overcoming the risks of relying too heavily on chicory, the seasonal performance of which can be variable.
- Improving the predictability of livestock flow through the value chain.
- Development of carcass assessment for feedback to farmers and to support processing and market segregation decisions by AGL.
- Targeted genetic progress to create more value in the Lumina lamb crop.
- Market insights and development to support sales growth while retaining a market premium position<sup>8</sup>.

The objectives, workstreams/projects and goals are set out in detail in Appendix 3: Programme Objectives and Outcomes.



## 5.0 Achievement of Objectives and Outcomes

### 5.1 General Comments on Assessment

The objectives and outcomes of the programme changed over time, as outlined in the previous section, and therefore this section assesses the initial aims and objectives of the programme as defined in the 2014 Business Plan, and then the targets as defined in the 2019/20 and subsequent annual plans.

Note that the plans had a separate workstream covering governance and programme management, and these are assessed separately in Section 6.0 - Programme Delivery.

Where achievement against specific, quantifiable or non-quantifiable objectives has been assessed, the following simple assessment criteria have been used.

Assessment	Criteria
Achieved	The objective or outcome was completely or substantially achieved. For quantifiable measures, 90% or greater achievement.
Partially achieved	The objective or outcome was achieved to some extent. For quantifiable measures, 30% - 90% achievement.
Not achieved	The objective or outcome was completely or substantially not achieved. For quantifiable measures, less than 30% achievement.

Details of the rationale for the assessment have been provided where relevant.

### 5.2 Achievement of Programme Economic Benefits

The 2014 Business Plan's key economic goals of over \$400 million in additional export value to New Zealand over 25 years, producing a net present value (NPV) of \$225 million attributable to the Government's investment, were based on key assumptions in the Business Plan including achieving ten-year targets of 1,000,000 lambs supplied in the programme (with 750,000 in-specification)<sup>9</sup>, a commodity price of \$200/lamb<sup>10</sup>, and a "most likely" premium value of 40%<sup>11</sup>.

A detailed reassessment of the investment case was not done for this evaluation, but it is clear that the NPV is tracking well below what was expected at this time. While the

gross premium paid is around 40%, the volumes in the programme are much lower than the target and the price of commodity lambs has dropped well below \$200 in recent years. However, the fundamental assumptions used to produce the investment case – that premium lambs with high utilisation can be produced cost-effectively and the products sold at a significant margin over commodity lamb - have been proven correct. There is no reason to assume the model cannot continue to be scaled, given continued commitment and investment from the partners, and therefore there is a high likelihood that the overall economic benefits will be realised, albeit a little later than originally forecast.

### 5.3 Achievement of Overall Programme Objectives

The achievement of the overall programme aims, as set out in the 2014 Business Plan, is assessed as follows.

Aim	Assessment	Details
Develop farm systems more competitive with other land uses than current hill and intensive sheep-based systems.	Achieved	The programme has created a community of farmers with the knowledge and capability of producing Lumina Lambs that consistently gain a premium over commodity lamb prices. The combination of breeding, forage and farm management have created what is, at this time, a unique value proposition.
Build a 500,000 head/year lamb value chain with a 5% net reduction in on-farm costs and demonstrated benefits for consumers of the lamb.	Not achieved	<p>Approximately 185,000 in-specification lambs were supplied for processing in 2024<sup>12</sup>, although the programme has demonstrated the ability to significantly scale farm and processing production, which may be expected to continue in years to come.</p> <p>On-farm costs are equivalent or higher than for commodity lambs<sup>13</sup>. The net cost reduction objective was probably always unrealistic for a premium product.</p>
Deliver at least three new consumer-focused health products, with the potential	Achieved	The programme has produced premium consumer products and several new lamb cuts (e.g. Lumina Supreme Shoulder). A decision was made early in the programme to focus on

## Omega Lamb Primary Growth Partnership Programme Evaluation

<p>to increase market returns from a carcass by 30%.</p>		<p>the food service market and high-end retail, with a corresponding focus on the consumer experience of taste and texture, rather than on the health attributes, ancillary products and the general consumer market.</p> <p>Gross market premium<sup>iv</sup> peaked at more than 30% premium on commodity lamb prices of around \$130/head at the time. It should be noted that the net premium paid to farmers has been reduced in 2024 due to reduced margins for Lumina products<sup>14</sup>.</p>
<p>Earn a 10% increase in market return on products from at least 200,000 lambs with high health attributes.</p>	<p>Achieved</p>	<p>The number of in-specification Lumina lambs processed, and achieving premium returns in excess of 10%, reached approximately 185,000 by 2024.</p>
<p>Develop a business plan and investment to expand the “High Health” value chain to one million lambs.</p>	<p>Partially achieved</p>	<p>The programme has been successful in developing and growing the value chain and creating a sustainable premium product in the food service and high-end retail markets. While interviewees were confident that both supply and marketing can be scaled significantly in years to come, a sustainable business plan and investment to grow volumes to one million lambs per year is not in place at this time.</p>

### 5.4 Achievement of Project and Sub-project Objectives

The achievement of the project and sub-project objectives, as set out in the 2014 Business Plan, is assessed as follows.

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<sup>iv</sup> Gross rather than net market premium has been used for this assessment because the objective states “market” returns rather than distribution to farmers.

## Omega Lamb Primary Growth Partnership Programme Evaluation

Project/Sub-Project	Objective	Assessment	Details
<b>New Class of Lamb</b>			
Animal Genetics	Supply genetic research, technology and know-how and establish a new high-health breeding programme that underpins the PGP pilot project and commercial value chain growth.	Achieved	The breeding programme successfully exploited the animal genetics known to deliver high levels of intramuscular fat (IMF) and omega-3, although the focus changed to enhancing the eating experience rather than the high-health attributes.
Forage Genetics	Identify, test and breed new forage varieties that, in combination with the right genetics, maximise high health trait, expression and animal productivity.	Achieved	The programme conducted trials of chicory finishing that supported the delivery of IMF and omega-3 in the lambs and determined a minimum time on chicory, and livestock management practices to optimise the use of chicory. The programme later developed a chicory/clover mix that delivered in-specification lambs and overcame some of the agronomic challenges of 100% chicory.
Pilot Project	Bring together and practically apply genetics and forage technology in flocks at all levels of the production chain: <ul style="list-style-type: none"> <li>• genetic multiplier</li> <li>• hill breeder</li> <li>• forage finishing.</li> </ul> Provide hub for ongoing innovation and	Achieved	The programme developed an integrated value chain that combined animal genetics, forage, farm systems, and carcass selection and processing to consistently deliver a premium lamb product to selected markets. It has proven it can scale the production of the product to

## Omega Lamb Primary Growth Partnership Programme Evaluation

	benchmarking and expansion of the high health value chain.		current levels without compromising quality.
<b>Market Insights</b>			
Market Prioritisation & Segmentation	Evaluate world market to identifying rank specific targets for high-health lambs and "premiumisation" approach.	Achieved	The consumer and market insights developed early in the programme led to a change in focus from health factors to eating quality and experience. As a result the programme decided to target high-end food service and focused on expanding sales and distribution to specific cities, predominantly in North America, Asia and the United Kingdom as well as New Zealand and Australia. It developed a new brand based on a unique and consistent consumer experience.
Routes to Market	Investigate distribution models for high-health lamb in target markets.	Achieved	The programme developed exclusive supplier agreements initially in Asian and US markets, as well as logistics arrangements, that supported the focus on high-end food service and retail. A focus on frozen cuts for food service supported the delivery of a year-round, consistent product.
Consumer Understanding	A deep understanding of consumer attitudes to health and red meat in target markets.	Achieved	The programme used consumer and market insights to understand the appeal of a differentiated, premium lamb product based on the breeding and production factors

## Omega Lamb Primary Growth Partnership Programme Evaluation

			developed by the partners, and to refine the positioning of the product as an exclusive consumer eating experience.
Health & Wellness	Investigate key global and local trends and food and nutrition at a scientific and consumer level. Seek to understand market success and features of products in the space.	Partially achieved	Health and wellness became a lesser focus as the value of Lumina in terms of eating experience became more evident. The health characteristics of the product are well understood and remain a significant opportunity for the future.
<b>Product Innovation</b>			
Commercial Model	<p>1. Create a biological and market map of lamb (and sheep) detailing cuts, potential products, current markets and returns and,</p> <p>2. Compare the Animal Map with findings from the Market Insights project to develop a plan for optimum animal utilisation.</p>	Partially achieved	<p>The biological and market map was not developed; however, prototype products were developed and market-tested (see below).</p> <p>The market insights work enabled targeting of products to specific market needs, e.g. to chefs in high-end food service.</p> <p>Achieving maximum premium utilisation of the carcass remains a challenge.</p>
Prototype Development	Develop prototypes to overcome the technical and creative barriers to develop samples for an early market evaluation and to ensure that our commercial estimates of production costs are realistic.	Achieved	Prototype cuts were developed and tested in the market.

## Omega Lamb Primary Growth Partnership Programme Evaluation

Pilot Production	Run pilot trials of products within all three categories in order to overcome technical barriers.	Partially achieved	New products (such as the Supreme Shoulder) were developed and commercialised; however, the change in focus away from health products meant product development was almost exclusively in the fresh meat category.
Consumer Evaluation	Test the robustness of each of each of our products to ensure they are both market and consumer ready, including taste panels, focus groups and any required clinical assessment with consumers (in conjunction with research partners). Use information to refine products and value chain practice. Explore the use of new media to gain feedback from emerging markets (closely linked to a traceability system developed as part of the Value Integration project).	Achieved	Consumer evaluation work including taste panels both in New Zealand and overseas, and consultation with chefs in high-end restaurants, were used to confirm the differentiation of Lumina Lamb, its viability as a premium product and the development of cuts.
<b>Value Integration</b>			
New Value Chain Models	Develop a vertical integration model from farm to fork.	Achieved	The programme developed a highly integrated value chain from farm to consumer with all participants having visibility of, and a stake in, all parts of the chain necessary to ensure a

## Omega Lamb Primary Growth Partnership Programme Evaluation

			consistent, premium product is delivered to the consumer.
Product Traceability Technologies	Develop technologies to assist with protection of the production system and assure consumers of system integrity.	Achieved	The programme developed and employed systems and technologies that provide on-farm management, traceability, quality control, carcass selection and payments, although there are some issues with the scalability of the systems that will need to be addressed to accommodate future growth.
Horizontal Integration	Provide an extension framework to share value chain benefits and know-how with other New Zealand exporters.	Partially achieved	<p>The knowledge and improvements developed in the programme are already being adopted with other New Zealand farmers and products, e.g. the adoption of chicory feed by other lamb farmers and the use of MEQ scanning across all AGL's processing lines.</p> <p>The programme was essentially a closed, competitive initiative (although open to farmers who were prepared to meet the standards), rather than an industry-wide programme, and therefore it was not expected that all learnings would be shared across the industry or broader primary sector.</p>
New Opportunities	Create licensing opportunities to take high-health system to other sectors in New	Not achieved	There has been some consideration of the opportunities to license the intellectual property and methods developed in the

	Zealand and internationally.		programme more broadly - either to further scale Lumina Lamb production and marketing, or to leverage it with other high-end New Zealand food products - but these opportunities have not been pursued at this time.
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## 5.5 Achievement of Reset Phase 2019 – 2022 Objectives

The achievement of the Reset Phase 2019 – 2022 objectives are assessed as follows.

Objective	Assessment	Details
Delivering the ultimate lamb: Combining farm systems, feeds, animal genetics, hyperspectral scanning, processing methods and eating quality assessment to deliver the ultimate lamb.	Achieved	The programme continued to enhance the farm systems, breeding and processing methods throughout the Reset Phase. The hyperspectral scanning technology turned out to be unsuitable for segregating carcasses at the beginning of the processing chain and a decision was made to investigate other technologies.
Further utilising the animal for profit: Using market insight to guide the development of market strategies, market development and branding to make more profit from every animal. Utilising more of the Omega Lamb carcass in premium-earning markets and products.	Achieved	The 2019 mid-point review concluded that “The Programme has yet to fully explore how it will derive premiums for inferior parts of the carcass in the food service or other more appropriate channels” and the Reset Phase and subsequent annual plans had significant focus on addressing this.  By 2021/22, carcass premium utilisation had exceeded 60%, however, by the end of the programme had dropped a little, contributing to a drop in gross premium payment per kg and indicating that maintaining premium returns is a continuing challenge <sup>15</sup> .

## Omega Lamb Primary Growth Partnership Programme Evaluation

		The rebranding from Te Mana to Lumina Lamb occurred at the beginning of this phase and was managed successfully.
Future scaling: Building the ongoing business of HHA by commercialising hyperspectral scanning, growing the ultimate lamb supply, recruiting new breeders and finishers, developing cost-effective ram supply and communicating the benefits of the new value chain to participants. This objective will ensure that HHA and the value chains it has created are viable beyond the term of the PGP programme.	Partially achieved	<p>The programme evaluated hyperspectral scanning and by around the end of the Reset Phase it determined that the technology was unsuitable and a replacement would need to be found. The programme increased the lamb supply significantly over this period, as well as the ram supply, and it recruited new breeders and finishers.</p> <p>Despite the increase in numbers over this period, growth in total supply was still well behind where the programme had originally intended to be, due in part to the lack of sufficient chicory plantings. A new company, Headwaters Supply Co. was formed in 2022 by Lone Star Farms (a major shareholder in Headwaters NZ Limited) to invest in chicory plantings to finish Lumina lambs and to manage the flow of lambs available for finishing and chicory feed available.</p>

It should be noted that over this period Covid-19 severely disrupted the global food service market as well as impacting the lamb supply, processing and distribution operations. The programme responded by using the downtime to engage with chefs in key food service markets, increasing awareness of the Lumina product and value chain, and building the potential for a strong recovery once lockdowns had ended.

The 2020/21 Annual Plan intentions of *survival*, *emerge* and *scaling* ensured that efforts were focused on recovering from Covid-19, expanding the supply of lambs and scaling up for the recovery of the global food service market. These focused intentions served the programme well with work progressing on supply chain systems and communication, supply volumes growing significantly (more than doubling to 91,000 in-specification lambs in 2021/22) and premium returns increasing over this period<sup>16</sup>. It is a credit to the programme's management and partners that momentum was maintained during what was clearly a very difficult period.

## 5.6 Achievement of Extension Phase 2023 – 2024 Objectives

The new objectives introduced in Extension Phase 2023 – 2024 are assessed as follows.

Objective	Assessment	Details
Overcoming the risks of relying too heavily on chicory, the seasonal performance of which can be variable.	Achieved	The programme conducted research on the optimal mix of chicory vs. other feeds, the required finishing time on chicory to produce Lumina Lamb characteristics, and the best model of high-country vs. low country grazing and finishing.
Improving the predictability of livestock flow through the value chain.	Achieved	The programme focused heavily in the 2023-24 Annual Plan on improving supply chain predictability and optimisation by refining the data and communications systems, and by 2024 the forecasts of processing volumes were much more accurate.
Development of carcass assessment for feedback to farmers and to support processing and market segregation decisions by AGL.	Achieved	The decision to replace hyperspectral scanning technology in AGL plants with MEQ delayed the delivery of this objective; however, by the end of the Extension Phase this technology had been installed across all AGL plants, enabling accurate assessment of IMF at the start of the production chain, with the information able to be used in real-time to inform sorting, cutting and grading of carcasses.
Targeted genetic progress to create more value in the Lumina lamb crop.	Achieved	A feasibility study was undertaken in the 2023/24 season to develop a future breeding model, taking into account factors such as parentage, progeny performance and survivability, with the intent of driving faster gains in breeding value in ewes and overall productivity. This included using data from the MEQ scanning and parentage testing to determine animal quality by parentage.
Market insights and development to support	Partially achieved	The programme focused on expansion into new cities through new distributors, targeting

<p>sales growth while retaining a market premium position.</p>		<p>the events and conventions market, developing new leg cuts, and engaging in further promotional activities. HHA assisted Alliance in targeting sales effort and selecting distributors and implemented a CRM system for tracking customer contacts.</p> <p>The net premium paid per head declined over this period<sup>17</sup>, in part attributable to sales lagging behind production and also to a small drop in carcass utilisation, highlighting the difficulty in maintaining premium price levels during a period of significantly increased volumes.</p>
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## 6.0 Programme Delivery

The assessment of the delivery of the programme in this section is primarily based on interview comments and documentation reviewed during the evaluation.

### Development and Measurement of Objectives, Outcomes and Benefits

The 2014 Business Plan set ambitious targets, some of which in hindsight were unrealistic. There was a heavy emphasis on the quantitative and economic objectives – unsurprisingly because these were a significant focus of the investment criteria at the time. The ability of a programme that was essentially a start-up venture to accurately forecast volumes and revenues up to seven years out (and a NPV over 25 years) was limited, and the goals should have reflected this. Investment cases for start-ups typically focus on shorter-term goals and corresponding tranches of investment, with further tranches dependent on meeting initial milestones, and this sort of approach may have been more appropriate for the Omega Lamb Programme.

The programme’s Outcome Logic Model provided a good structure for organising workstreams around specific outcomes, activities and outputs, while allowing for flexibility in specific project objectives. The framework allowed for a significant change in the key product value proposition - from health attributes to the consumer eating experience – without needing to rework or throw away most of the original objectives and outputs. However, the Business Plan only aligned loosely with this framework and was much more specific in defining quantitative targets that turned out to be difficult to achieve. Notwithstanding this, the programme was effective, particularly in its latter phases, at adjusting its objectives and workstreams to focus on those activities needed

to address gaps and impediments to overall progress, such as scaling up lamb supply by recruitment of new breeders and finishers. It was able to respond effectively to Covid-19 and to the need to rebrand without losing focus on its overall objectives and work programme.

The programme was transparent in its measurement and reporting of outcomes and benefits, at least in its later phases. The mid-point review was frank in its assessment of progress at that time and the annual plans from that point onwards included reviews of progress to date and linked revised objectives and outcomes to the areas that needed to be addressed. The distribution model for premium returns relies on transparency in costs and pricing throughout the value chain, and while a lack of transparency of the calculation and payment mechanism was identified as an issue in the mid-point review<sup>18</sup>, it appears to have been resolved later in the programme.

### Programme Delivery

The programme struggled in the Initial Phase to implement an effective governance model, with the programme governance group meetings focusing on operational matters and detail that should have been dealt with by Headwaters or AGL management rather than the programme. It was the practice of the entire HHA Board to attend programme governance group meetings in the early days, with the result that there was little separation between the governance of HHA and the programme.

The initial programme management team also struggled due to resourcing – there was a single person in the joint role of HHA General Manager and programme manager - and effort was heavily focused on the delivery of the technical work of the programme rather on the sales and marketing of Omega/Lumina Lamb.

The partners agreed to reset the programme in 2019 and this resulted in changes to governance, management and the programme vision. The programme governance group was reduced in size and a new HHA General Manager and separate programme manager were brought in<sup>v</sup>. The governance group was able to concentrate on its programme governance and oversight role, and the HHA GM and programme manager were able to focus on the commercial and programme management roles respectively. These changes appeared to produce immediate results in resolving some of the issues that had hampered progress during the Initial Phase, and the governance and management of the programme worked much more effectively from that point on.

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<sup>v</sup> A new HHA board chair was also appointed in 2018.

### Management of Funding

A financial audit was conducted by KPMG in July 2017 concluded that financial processes and controls in the programme were “good” and that the financial management systems were working effectively. Programme accounts were independently audited as part of HHA’s annual audit process.

The programme has operated within budget (including the Extension Phase funding) and the annual plans were clear on where the funding was to be spent.

Note that this evaluation did not include a separate financial audit of the programme.

### MPI Support for the Programme

It is clear that the PGP partnership structure and funding provided an essential framework for the commitment of the stakeholders and their collaboration on the objectives and outcomes over the course of the programme.

Stakeholders interviewed for this evaluation reported that MPI’s involvement was a strong contributor to the outcomes and in ensuring resolution of issues throughout the programme, particularly where there were differences in expectations and approaches between the commercial partners.

MPI played a key role in bringing about the reset in 2019, which was critical in terms of refocusing the programme on the overall objectives, resetting the role of the programme governance group, and addressing the issues around roles, responsibilities and resources that were evident at that time. The only question raised about MPI’s role by one interviewee was whether MPI could have intervened earlier, but others stated that MPI “couldn’t have done more” and that they needed to give the commercial partners “space to breathe”. On balance, it appears MPI demonstrated sound judgement in intervening when it did and that this intervention was an important factor in the overall success of the programme.

## 7.0 Lessons Learned

### Lumina Lamb Today

Lumina Lamb is in many ways an exemplar for the New Zealand primary produce sector of how to add value and attain premium returns for what would otherwise be a commodity product. The programme addressed all parts of the value chain – the breeding and selection of animals, the grazing and finishing, the processing of the carcass and development of meat cuts, the branding and marketing, and the distribution of the products to the consumers. It has succeeded in bringing together farmers, scientists, processors, marketers, chefs and retailers in a common interest in producing a superior and consistent consumer product.

The programme has addressed many of the challenges in developing, launching and growing a high-end food product, starting with identifying the factors that differentiate the product, ensuring those factors can be replicated consistently as production is scaled, finding the markets that are willing to pay a premium for the differentiated characteristics, and building the sales and distribution network to ensure the returns are realised. It has demonstrated that it can grow volumes while maintaining quality in all parts of the value chain.

The programme faces continuing challenges in balancing production and sales volumes, but it is clear the original target of 500,000 Lumina Lambs processed and sold each season is very achievable, and a plan to reach 1,000,000 lambs in the future is not unrealistic.

### Where to From Here?

As with any growing business, ongoing investment will be necessary to build production volumes, undertake further product innovation, and fund sales and distribution into new markets.

There are questions about whether the current business model is optimal to grow Lumina Lamb to the levels envisaged. The joint venture structure of the programme made it difficult to obtain the resources and focus that were needed in the early days, and it was only when a clearer governance structure was established and dedicated resources were engaged that the programme began to make significant progress. A key element of the growth to date has been the marketing support that HHA and the programme have provided to AGL, and this needs to continue in future, with HHA providing dedicated resources to ensure Lumina Lamb has the ongoing focus it needs to grow.

The premium return distribution model has worked in practice but the uncertainty of returns makes it difficult for farmers to invest with confidence and to recruit new farmers into the Lumina business, particularly as increased supply puts pressure on the premium return levels. Other revenue models may need to be explored in future.

There remains an opportunity to build on the original vision of a range of “high health” products, particularly in the use of offal from Lumina Lambs, although this is a different market to the current food service and high-end food retail that the programme has targeted to date. It would require more of a consumer-direct marketing strategy, and the experience of other New Zealand health-focused products such as manuka honey shows that it requires significant investment and effort over time to build the credibility and brand exclusivity needed to secure market share.

Lumina Lamb is a system as much as a product and a brand, and there is potential for it to be expanded to other New Zealand food products, utilising a similar combination of genetics, sustainable farming, selective processing and exclusive branding, or even to New Zealand luxury products more broadly.

The development of the systems in the programme for on-farm management, traceability, quality control, carcass selection and payments will need to be scaled (ideally by moving to a fully-scalable, cloud-based platform) to ensure future growth in volumes and farmer numbers can be accommodated.

### Lessons for Other Programmes

The issues with governance and management that led to the 2019 programme reset could have been avoided if there was greater clarity early on about the roles and responsibilities of the programme governance group members, the partner organisations, and the programme staff. The organisations and individuals involved in programmes of this type typically have multiple roles and it is perhaps inevitable that there are some conflicts of interest between those roles. Establishing terms of reference for different roles, providing clear demarcations in meetings and other interactions between them, and ensuring clear accountability for decision-making, are necessary to avoid such issues in other programmes.

Longer term programmes should ensure they set realistic and achievable goals that focus on the overall outcomes, rather than specific quantitative targets that have a high level of uncertainty over the term of the programme. The Omega Lamb Programme’s outcome logic model provided a good framework that seemed to anticipate some of the changes in objectives that were made later in the programme, and structuring the Business Plan more closely around this model may have allowed for greater flexibility

and agility to change the workstreams and objectives to meet the opportunities and threats that arose, particularly in the first phase of the programme.

As discussed above, the highly integrated model of the Omega Lamb Programme, comprising a limited group of partners and stakeholders with a common interest in breeding, rearing, processing and marketing Lumina Lamb, is transferable to other primary sectors and products. The Omega model contrasts with all-of-industry initiatives in having particular advantages and disadvantages. The partners all have a strong commitment to delivering a premium and consistent product, and have visibility over the performance of all parts of the value chain from farm to plate. The model for distribution of premium returns reinforces this common interest. On the other hand, the high standards required for entry to the group has made it more difficult to recruit sufficient new farmers and to scale production quickly. On balance and in hindsight, the programme appears to have made the right choices in focusing strongly on creating a unique and exclusive brand even at the expense of achieving the production volume targets it originally envisaged.

## Appendix 1: Evaluation Plan

Activity	Approach	Assumptions and Notes
<b>Project Kick-off (Initiation Meeting)</b>	Meet with MPI to confirm the scope of the assignment and the objectives of the review, and the format for the evaluation plan. Agree stakeholders and representatives for interviews/workshops, sources and access supporting documents/information, and agree delivery timeframes.	Includes preparation and write up.
<b>Update Evaluation Plan</b>	Produce an updated evaluation plan, based on the initiation meeting with MPI. This will confirm the final scope requirements for this evaluation.  The Plan will be approved by the MPI Investment Manager.	It is assumed that this proposal will form a substantive part of the evaluation plan.  Includes a stakeholder map and interview list.
<b>Desktop research/document review</b>	Desk research - Documents to be included in the review will include: <ul style="list-style-type: none"> <li>• Outcome Logic Model</li> <li>• Original Business Case</li> <li>• Reports including assurance audit</li> <li>• Independent Progress Review Report</li> <li>• Annual Plans and Quarterly Reports</li> <li>• Outcome and benefit measures/KPIs with performance data collected</li> <li>• Other reports and/or evaluations produced to inform the programme.</li> </ul>	The Investment Manager from MPI will provide key liaison support for supplying documents.
<b>Interviews</b>	Interviews - Teams or face to face interviews, potentially including: <ul style="list-style-type: none"> <li>• Programme Manager and key Programme staff (including representatives' commercial partners)</li> </ul>	12 interviews with stakeholders to be agreed with MPI.  The Investment Manager from MPI will provide key

Activity	Approach	Assumptions and Notes
	<ul style="list-style-type: none"> <li>• Programme Governance Group members</li> <li>• Commercial Partner(s) Senior Leadership Team representatives</li> <li>• MPI Investment Manager</li> <li>• Director of MPI Investment Programmes</li> <li>• SFFF Investment Advisory Panel representative</li> <li>• Relevant industry representatives (e.g. those in the venison supply chain).</li> </ul>	liaison support for arranging interviews.
<b>Additional Data Collection</b>	Conduct a brief review of international trends and other key influencing factors as discovered during the interview process that may have impacted on the likelihood of success of the programme.	Review information sources supplied/identified during the interviews.
<b>Evaluation / Theme Analysis</b>	Analyse key themes that have emerged from desk research, stakeholder interviews and additional data collection.	Key themes will be collated into a summary document.
<b>Face to face presentation to MPI and PGP Programme Partners</b>	Develop presentation based on the findings of the evaluation and resulting discussion with key MP staff.	Meet with MPI and Programme partners. To be in person, online or hybrid.  Includes time for preparation and write up.
<b>Develop Final Report</b>	Utilising the presentation and feedback, develop the confidential evaluation report deliverable.	If MPI and the Programme Partners agree that there are substantive issue(s) relating to the programme that require further investigation, additional hours may need to be negotiated.

Activity	Approach	Assumptions and Notes
<b>Develop Public Summary Report</b>	Produce public summary report removing commercially sensitive material.	MPI will review to identify all commercially sensitive material to be removed to enable production of the public version of the report. No material facts will be changed during the revision from draft to final by MPI.

## Appendix 2: Documents Reviewed

The following documents and sources were reviewed for this evaluation:

Document	Date(s)
Targeting New Wealth with High Health – A Primary Growth Partnership Business Plan from the High Health Alliance	October 2014
Outcome Logic Model for Targeting New Wealth with High Health PGP Programme	November 2015
Omega Lamb Primary Growth Partnership Audit	19 July 2017
Omega Lamb Programme Quarterly Progress Summary reports	July – Sept 2015 to April – June 2024
Omega Lamb PGP Midpoint Review	July 2019
Omega Lamb Programme Annual Plans	2019/20 2020/21 2021/22 2022/23 2023/24
Omega Lamb Programme Final Report	December 2024

## Appendix 3: Programme Objectives and Outcomes

Project	Objective	Sub-projects	Objectives	Outcomes
New Class of Lamb	<p>Provide the tools, technology, forages and proven farm systems to cost effectively produce a differentiated high-health lamb product on a large scale.</p> <ul style="list-style-type: none"> <li>Deliver the fundamental science, genetic improvement systems, new forages and tools produce lamb with a healthy fat profile, improve taste and improve productivity.</li> <li>Develop a series of pilot farms – covering relevant management systems – to extend value and still confidence amongst farmers that they can adopt a new integrated system without undue risk; and</li> <li>Produce initial products – from pilot farms – for market testing, including further product development and consumer testing.</li> </ul>	1. Animal Genetics	Supply genetic research, technology and know-how and establish a new high-health breeding programme that underpins the PGP pilot project and commercial value chain growth	<ol style="list-style-type: none"> <li>A new high-health breeding programme that delivers on-farm and consumer benefits over standard lamb, including the genetic potential to exceeded official "source claim" levels for omega-3</li> <li>New intellectual property for a genetic improvement of on farm and consumer traits that can be applied another breeding programmes.</li> </ol>
		2. Forage Genetics	Identify, test and breed new forward varieties that, in combination with the right genetics, maximise high health	Develop proprietary and productive forages – through genetic means – that produce healthier product products for the consumer such as lamb

Omega Lamb Primary Growth Partnership Programme Evaluation

Project	Objective	Sub-projects	Objectives	Outcomes
			trait, expression and animal productivity	that consistently exceeds official "source claim" levels for omega-3 in addition to other consumer benefits over standard lamb.
		3. Pilot Project	Bring together and practically apply genetics and forage technology in flocks at all levels of the production chain: <ul style="list-style-type: none"> <li>• genetic multiplier</li> <li>• hill breeder</li> <li>• forage finishing.</li> </ul> Provide hub for ongoing innovation and benchmarking and expansion of the high health value chain.	Develop working demonstration farm network that integrates the production chain – from genetics to processor – and uses technology developed in the genetics and forages project to deliver high-health lamb to specifications for product development and market trials. The farm network will cover major farm systems and environments whereby the high-health value chain is likely to be commercially applied inform a hub for benchmarking and technical

Omega Lamb Primary Growth Partnership Programme Evaluation

Project	Objective	Sub-projects	Objectives	Outcomes
				support of commercial expansion.
Market Insights	<p>Establish a global understanding of potential markets, channels, consumer trends and consumer behaviour relevant to our high-health lamb product.</p> <ul style="list-style-type: none"> <li>Develop a clear market strategy and strong consumer-based evidence that a 20%+ premium for base natural high-health lamb products is achievable by year three; and</li> <li>Provide the Market Insights required for business decisions on manufactured and health products by year four.</li> </ul>	1. Market Prioritisation & Segmentation	Evaluate world market to identifying rank specific targets for high-health lambs and "premiumisation" approach	<p>Comprehensive targeted market plan.</p> <p>Completed trials in NZ with validated results.</p> <p>A clear ranking of opportunities by market split across total carcass with agreed targeted action plan.</p> <p>A clear ranking of optimal opportunities by market split out by product category.</p> <p>Agreed targeted action plan for market approach.</p> <p>Clear ranking of optimal opportunities by market split by product category with agreed targeted action plan.</p> <p>A report on market prioritisation insights for:</p>

Omega Lamb Primary Growth Partnership Programme Evaluation

Project	Objective	Sub-projects	Objectives	Outcomes
				<ul style="list-style-type: none"> <li>• Sector</li> <li>• Alliance</li> <li>• High Health Alliance.</li> </ul>
		2. Routes to Market	Investigate distribution models for high-health lamb in target markets	
		3. Consumer Understanding	A deep understanding of consumer attitudes to health and red meat in target markets.	
		4. Health and Wellness	Investigate key global and local trends and food and nutrition at a scientific and consumer level. Seek to understand market success and features of products in the space.	

**Omega Lamb Primary Growth Partnership Programme Evaluation**

<b>Project</b>	<b>Objective</b>	<b>Sub-projects</b>	<b>Objectives</b>	<b>Outcomes</b>
Product Innovation	<p>Build and implement a high health product innovation, development and evaluation pipeline in order to achieve our objective of gaining premiums in high-end markets. Products will be developed from the whole animal in tailor-made for specific market segments in line with the market inside project. Products will fall into three categories:</p> <ul style="list-style-type: none"> <li>• high health fresh meats</li> <li>• high health processed foods</li> <li>• high health formulations and nutraceuticals.</li> </ul>	Commercial Model	<ol style="list-style-type: none"> <li>1. Create a biological and market map of lamb (and sheep) detailing cuts, potential products, current markets and returns and,</li> <li>2. Compare the Animal Map with findings from the Market Insights project to develop a plan for optimum animal utilisation.</li> </ol>	<p>A full understanding of biological and market options for products will be established through the development of an Animal Map of potential product forms. This will be augmented with the development of a Commercial Checkpoint model to assess and compare products for protected and actual profitability</p>
		Prototype Development	<p>Develop prototypes to overcome the technical and creative barriers to develop samples for an early market evaluation and to ensure that our commercial estimates of production costs are realistic (these will be</p>	<p>Overcome technical and creative barriers to develop prototypes in order to undertake early market evaluation and sense check commercial variables.</p>

Omega Lamb Primary Growth Partnership Programme Evaluation

Project	Objective	Sub-projects	Objectives	Outcomes
			refined further within the Pilot Processing sub-project.	
		Pilot Production	Run pilot trials of products within all three categories in order to overcome technical barriers to scaled up production, sense check commercial variables and undertake advanced market evaluation.	
		Consumer Evaluation	Test the robustness of each of our products to ensure they are both market and consumer ready, including taste panels, focus groups and any required clinical assessment with consumers (in conjunction with	A complete consumer feedback loop for all stages of the product development cycle which allows us to objectively assess and progress commercial opportunities for each new product prior to launch.

Omega Lamb Primary Growth Partnership Programme Evaluation

Project	Objective	Sub-projects	Objectives	Outcomes
			research partners). Use information to refine products and value chain practice. Explore the use of new media to gain feedback from emerging markets (closely linked to a traceability system (developed as part of the Value Integration project).	
Value Integration	<ol style="list-style-type: none"> <li>1. Connect and integrate the value chain to ensure the consumer is connected with the full production story.</li> <li>2. Ensure that disparate companies do not operate in silos, but are linked through data, relationships and a shared vision of value creation.</li> <li>3. Ensure benefits developed as part of the high-health value chain are extended to other sectors.</li> </ol>	New Value Chain Models	Develop a vertical integration model from farm to fork.	
		Product Traceability Technologies	Develop technologies to assist with protection of the production system and assure consumers of system integrity	
		Horizontal Integration	Provide an extension framework to share	

Omega Lamb Primary Growth Partnership Programme Evaluation

Project	Objective	Sub-projects	Objectives	Outcomes
			value chain benefits and know how with other New Zealand exporters	
		New Opportunities	Create licensing opportunities to take high-health system to other sectors in New Zealand and internationally	



## Appendix 4: Glossary

Term	Definition
AGL	Alliance Group Limited
CRM	Customer relationship management system
HHA	High Health Alliance
IMF	Intramuscular fat
KPI	Key performance indicator
MEQ	Meat Eating Quality spectral scanning system
MPI	Ministry of Primary Industries
NPV	Net present value (of future cash flows)
OLM	Outcome logic model
OLP	Omega Lamb Programme
PGP	Primary Growth Partnership
R&D	Research and development
SFFF	Sustainable Food and Fibre Futures
Te Mana	The original brand name for OLP lamb products

## References

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- <sup>1</sup> Ministry for Primary Industries, *All of Government Consultancy Services Order – Lumina Lamb (PGP) - Evaluation Services*, p3
- <sup>2</sup> *Targeting New Wealth with High Health – A Primary Growth Partnership Business Plan from the High Health Alliance*, October 2014, p23
- <sup>3</sup> *Omega Lamb Programme Final Report*, December 2024, p7
- <sup>4</sup> *Targeting New Wealth with High Health – A Primary Growth Partnership Business Plan from the High Health Alliance*, October 2014, pp30-32
- <sup>5</sup> *Omega Lamb Programme Annual Plan 2019/20*, pp3-4
- <sup>6</sup> *Omega Lamb Programme Annual Plan, 2020/21*, pp5-6
- <sup>7</sup> *Ibid*, p6
- <sup>8</sup> *Omega Lamb Programme Final Report*, December 2024, p7
- <sup>9</sup> *Targeting New Wealth with High Health – A Primary Growth Partnership Business Plan from the High Health Alliance*, October 2014, p66
- <sup>10</sup> *Ibid*, p141
- <sup>11</sup> *Ibid*, p139
- <sup>12</sup> *Omega Lamb Programme Final Report*, December 2024, p35
- <sup>13</sup> *Ibid*, p41
- <sup>14</sup> *Ibid*, p49. Note the commodity lamb price was taken from:  
<https://beeflambnz.com/knowledge-hub/PDF/all-grades-lamb-head.pdf>
- <sup>15</sup> *Ibid*, p32
- <sup>16</sup> *Ibid*, p49
- <sup>17</sup> *Ibid.*, p33
- <sup>18</sup> *Omega Lamb PGP Midpoint Review*, July 2019, p9