

Digital Product Substantiation – the case of Mānuka Honey¹

Executive Summary

Understanding the credentials for Mānuka honey

This report examines how product claims and certifications are substantiated within New Zealand's mānuka honey export sector and considers the implications of emerging international requirements for transparency, traceability, and trusted data to substantiate product claims and certifications. The research was undertaken in response to growing international interest in moving beyond 'paperless trade' towards digital mechanisms for exchanging and verifying product-related information.

The report builds on earlier work examining the role of digital standards in supporting product claims, sustainability disclosures, and supply-chain transparency. Mānuka honey was selected as a case study because it is a high-value export product that relies heavily on trust-based claims relating to authenticity, origin, quality, provenance and sustainability, making it well suited to exploring the opportunities and challenges associated with digital product substantiation.

We used a mixture of methods

The study combined desktop research, semi-structured interviews with industry participants and sector organisations, and an industry workshop to test and validate the interview findings. The objective was to understand how information supporting product claims is currently generated, exchanged and verified across the value chain; identify constraints and inefficiencies within existing systems; and explore the potential role of digital standards and interoperable information exchange mechanisms in supporting future export requirements.

We found stacked layers of credentials

A central finding was that mānuka honey claims are not individual (monofloral, organic, indigenous) but stacked layers of credentials, each one building on the other. Foundational requirements include compliance with the MPI mānuka definition, food safety controls, residue testing, and UMF™ or MGO potency grading systems. These are supported by additional certifications and assurances relating to provenance, halal certification, Brand Reputation through Compliance Global Standards (BRCGS) compliance, organic production, ethical sourcing, indigenous provenance, and emerging Environmental, Sustainability and Governance (ESG)-related expectations. Exporters described market value as being built through cumulative layers of scientific authentication, regulatory assurance, certification, provenance signalling, and traceability systems.

Demands increasing over time

Interviewees consistently reported that export markets have become substantially more demanding over time. Exporters now face growing requirements for testing, certification, traceability, and evidence-sharing from both governments and market actors including retailers,

¹ NZ PECC Project Team: Rebecca Berendt, Derek Gill, Peter Stevens

online platforms, and consumers. Requirements are expected to continue growing rather than plateauing – and there was some evidence that market premiums can be extracted by going beyond measurable scientific attributes to include more credence-based claims such as sustainability, indigenous provenance, labour practices, and ethical sourcing. Most stakeholders expect these requirements to continue, particularly in premium export markets where high prices can be extracted and trust and authenticity are critical.

Current systems need joining up

A recurring theme throughout the research was the fragmented nature of current substantiation processes. Information is commonly exchanged through certificates, laboratory reports, spreadsheets and PDF documents, often requiring manual processing and repeated verification across multiple organisations. Participants identified duplication, inconsistent reporting formats, limited interoperability, and fragmented information flows as significant constraints.

At the same time, stakeholders reported growing use of digital traceability and authentication tools and increasing interest in approaches that enable information to be shared and verified more efficiently. Stakeholders suggested that substantiation is increasingly shifting from one-off verification at market entry toward ongoing validation at shipment, consignment, or even batch level.

Building on international pressure to move beyond paperless trade

The research suggests that interoperable digital standards and trusted digital credentials could help address many of these challenges. International developments, including UN/CEFACT Recommendation No. 49 (Transparency at Scale), the United Nations Transparency Protocol, APEC work on digital exchange of traceability and ESG credentials, and related paperless trade initiatives, indicate growing interest in mechanisms that enable product-related information to be exchanged, verified and reused across supply chains and jurisdictions. Such approaches have the potential to reduce duplication, improve efficiency, strengthen trust, and support more scalable forms of product substantiation.

Mānuka honey part of a wider trend

Although the research focused on mānuka honey, the findings have wider relevance. Many of the challenges identified – including increasing demands for product-level evidence, fragmented information systems, and the need for trusted digital information exchange – are consistent with trends affecting other New Zealand export sectors that compete on provenance, quality, sustainability, and trusted product claims.

The report concludes that digital product substantiation should be viewed not simply as a sector-specific issue, but as part of a broader evolution in trade systems toward more structured, interoperable and digitally verifiable forms of information exchange. Early investment in digital standards, interoperability and trusted information-sharing frameworks may therefore provide both operational benefits and longer-term strategic advantages for New Zealand exporters.

Contents

Executive Summary	1
Introduction and context	4
The trend towards transparency at scale	4
Project objective and scope	6
Research methodology	7
Research findings	7
Product substantiation involves layers of credentials	7
Econometric evidence: origin and authenticity matter	10
Indigenous claims and certifications	10
Looking ahead: market complexity is expected to continue	11
Claim substantiation: current approaches and new digital tools	12
Conclusions	13
Digital product substantiation: an investment in future competitiveness	13
Implications beyond mānuka honey	16
Next steps	17
References	19

Introduction and context

The trend towards transparency at scale

The initiative for this project was a paper prepared for the New Zealand branch of the Pacific Economic Cooperation Council (NZPECC): ‘Product Claims, Substantiation and Climate-Related Disclosures in the Value Chain through Digital Standards’². That paper identified a global trend towards “transparency at scale”, suggesting that digitally verifiable attestations associated with products are becoming a baseline condition of trade. This trend has been observed by international organisations such as the UN and APEC – relevant work undertaken in both organisations is in response to this same trend where increasingly, regulators, consumers, investors, and supply chain partners are expecting businesses to provide evidence supporting claims relating to environmental performance, social responsibility, provenance, sustainability practices, and product authenticity. The objective of this research study was to explore these trends as they relate to New Zealand exporters.

Stacked layers of overlapping credentials

The trend towards transparency involves a demand for data to substantiate claims and requirements relating to sustainability, climate impact, ethical sourcing and labour practices. The information required by multiple parties in the supply chain leads to layers of overlapping evidence. Businesses must provide information related to the product, including compliance with all regulatory and customer requirements, information linked to claiming product premiums and also information related to how it was produced.

Patchwork of documents that aren’t joined up

However, significant challenges remain for New Zealand exporters. Currently, substantiation processes for product claims are highly fragmented. MPI’s export certification is seen as highly valuable but is limited to Government counterparts. Product claims and certifications are commonly supported through a patchwork of laboratory results, certificates, declarations, audit reports, and other documentation. Much of this information is exchanged manually or as static PDF documents, limiting interoperability, increasing administrative burden, and making independent verification difficult.

There are also broader national implications. New Zealand’s international reputation is strongly associated with trust, quality, sustainability, and integrity. Inconsistent, unverifiable, or poorly governed product claims could create increasing exposure to accusations of greenwashing or misleading conduct – and this could impact other sector as well, undermining the credibility of New Zealand’s export brand in key markets.

² Stevens, Peter (2026) ‘Product Claims, Substantiation and Climate-Related Disclosures in the Value Chain through Digital Standards’, unpublished paper for NZ PECC.

These pressures are particularly acute for small and medium-sized enterprises. Small and Medium Enterprises (SMEs) often lack the technical capability, digital infrastructure, or resources needed to participate in complex assurance and reporting ecosystems. Without scalable and affordable mechanisms, there is a risk that smaller exporters will face disproportionate compliance burdens and reduced competitiveness in international markets.

The role of digitisation and standardisation.

In the context of the Government's *Going for Growth* agenda, where trade is recognised as a key driver of economic growth and international competitiveness, it is important to address these challenges. Against this backdrop, there is a growing need to examine how product claims and certifications can be substantiated in ways that are trusted, interoperable, scalable, and internationally aligned. Digital standards and interoperable data exchange mechanisms have a central role in enabling exporters to realise the benefits of new market access opportunities by reducing friction, improving efficiency, and strengthening trust in New Zealand products and production systems. Government-to-government market access assurances are necessary, but not sufficient, to ensure market success – business-to-business and business-to-consumer assurances backed by authoritative information to prove product claims and demonstrate conformity increasingly matter.

International developments

Over the last decade a range of international organisations including WTO, UNESCAP, UNCITRAL, the International Chamber of Commerce (ICC) and the Commonwealth Secretariat have argued the case for paperless trade (Nixon 2025). Recent NZIER analysis *Enabling Paperless Trade* similarly highlights the importance of interoperable digital trade systems in reducing compliance costs, addressing increasingly complex non-tariff barriers and supporting New Zealand's competitiveness in a rapidly digitising global trading environment.

The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) Recommendation No. 49, *Transparency at Scale*, articulates the need for interoperable mechanisms that enable trusted information exchange across supply chains and jurisdictions. The recommendation reflects a broader international recognition that scalable transparency depends on common frameworks for trust and interoperability of systems and proof points. The UN Transparency Protocol is one such framework– technology-neutral, it is an approach to implement Transparency at Scale using persistent identifiers, linked data, resolver services and portable digital credentials.

Complementing this policy direction, the Asia-Pacific Economic Cooperation (APEC) report *Improving Supply Chain Transparency with Digital Exchange of Traceability and ESG Credentials to Facilitate APEC Trade Flows* provides a practical implementation perspective. The report identifies the growing need build on the paperless trade approach but expanding this to include digitally exchange traceability and ESG credentials using interoperable standards frameworks. This will particularly support small and medium-sized enterprises (SMEs) participating in international trade. And New Zealand is an economy mainly comprised of small enterprises (by world standards). The report also highlights the importance of integrating public and private systems, reducing fragmented manual processes, and enabling trusted access to certifications, audit records, and sustainability credentials across supply chains.

Project objective and scope

This research study investigated one case study – mānuka honey – to understand more about the current and emerging approaches to the substantiation of product claims and certifications. The study sought to identify the opportunities, constraints, and enabling conditions required to support trusted digital substantiation for New Zealand mānuka honey exporters, aligned with international developments, and capable of supporting future trade requirements.

This research report documents the findings from desk-based research and interviews with industry participants. The research focused on mānuka honey exports as a useful case study for understanding more widely how digital tools and standards could make it easier to share trusted information across the supply chain and into export markets to prove the claims they make about their products, such as origin, quality, sustainability, and authenticity.

Other deliverables produced as part of the research project include a Policy Brief, an Industry Playbook and an illustration of key information flows through the supply chain. Interviews explored how information to support mānuka honey product claims is currently shared, where the ‘pain points’ are, and what challenges exporters face. A key question was understanding how information is shared in the value chain - from hives through to exporters and customers - where there may be duplication, inefficiencies, or risks to trust and reputation, and how existing digital standards may be able to help.

Why mānuka honey?

Mānuka honey was selected as a case study because it is one of New Zealand’s most strategically important export products and a sector highly dependent on trust-based claims. Mānuka honey dominates New Zealand honey exports by both value and volume, accounting for approximately 82% of honey export revenue and around 76% of total apiculture sector income in 2022. It has a high value and attracts strong brand premiums as a product in its own right, and also as an ingredient in food and non-food products including cosmetics, health supplements, and medical products. Beyond its commercial significance, mānuka is also regarded in te ao Māori as a taonga species with important cultural, environmental, and intergenerational economic value.

The sector is characterised by high price premiums and heavy reliance on claims relating to New Zealand origin, UMF/MGO potency ratings, purity, sustainability, and the absence of contaminants. These claims are increasingly scrutinised by regulators, buyers, and consumers in key export markets including the EU, UK, and Asia. At the same time, the industry faces significant exposure to fraud, counterfeiting, and mislabelling risks because many of these attributes are difficult for consumers to independently verify.

Additional credence claims such as organic and indigenous provenance further increase these risks. Such claims command substantial premiums but often rely on complex supply chains, extensive documentation, and verification systems rather than direct product testing. This combination of strong consumer trust, high economic incentives, and difficult verification makes mānuka honey an important and relevant case study for examining export assurance, traceability, and product integrity systems.

Research methodology

The genesis of this project was a paper (Stevens, 2025) prepared for PECC on product substantiation: *Product Claims, Substantiation and Climate-Related Disclosures in the Value Chain through Digital Standards*. To further explore the themes in that analysis we undertook desktop and interview-based research using New Zealand mānuka honey as a case study and tested our findings in an industry workshop. Interviews were semi-structured to enable comparison while also allowing for differences between businesses. Interview questions were focussed on understanding current export requirements, sector priorities and likely future trends.

We conducted meetings and semi-structured interviews with 9 industry stakeholders. We identified 6 mānuka honey exporters to get perspectives across different size and scale of operations: large exporters, family-owned, Māori -owned, producer-exporter, and marketer-only businesses. We also met with Apiculture NZ, the Mānuka Charitable Trust and the Unique Mānuka Factor Association. The industry workshop - held on 8 May 2026 - included 10 people with a range of perspectives - honey industry, government officials (MPI and MFAT) and agriculture-industry standards developers.

Exporters we interviewed sell a mix of retail-ready consumer-packaged products (honey-in-a-jar), honey as ingredient (for wound care, health supplements or cosmetics applications) and honey sold in 'clean-skin' or bulk formats for retail packaging offshore. A stand-out feature is that businesses are versatile – many businesses supply this full range with a mix of their own brand, supply into retail store private label, and for use in wider applications. Interviews provided sector-wide perspectives on export conditions and trends, industry-level challenges, operational systems, and business priorities.

Based on these interviews we identified scientifically verified product claims (eg, mānuka and UMF rating) and traceability-reliant marketing claims (eg, organic) and developed a simple supply chain illustration showing associated information that is passed along the value chain.

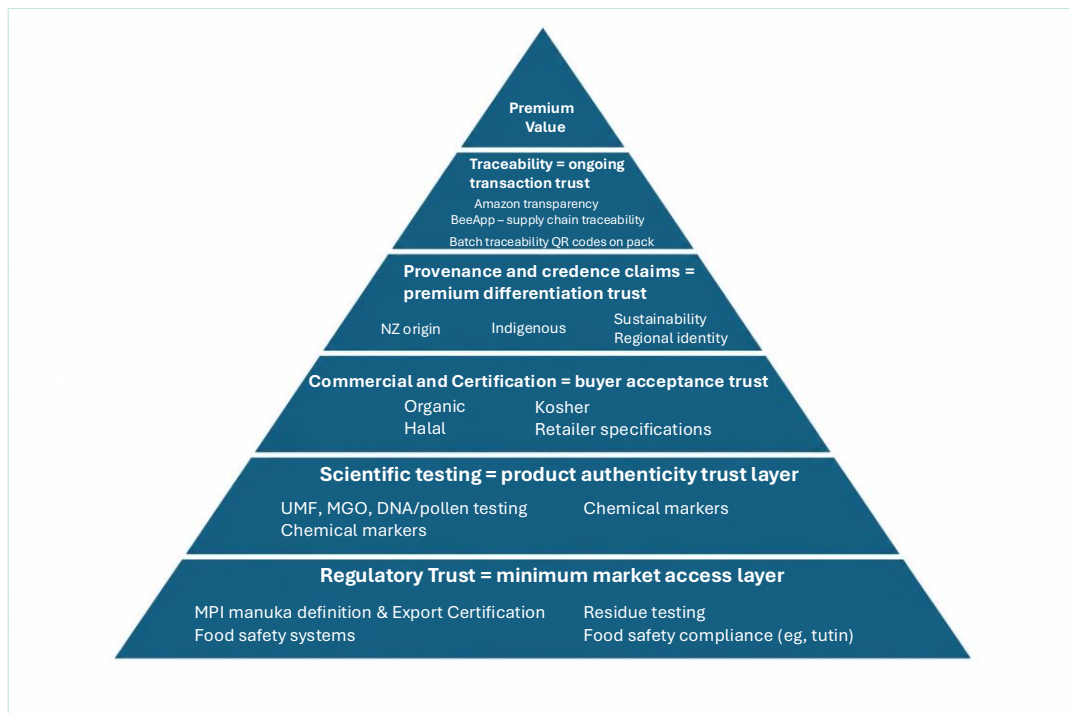
Research findings

Product substantiation involves layers of credentials

Interviews with stakeholders identified many different types of credentials and assurances – many more than expected. Therefore, it did not make sense to focus on only a few claims – but instead try to take a systems-view of the landscape of claims being made and consider the likely future.

What became apparent early in the research was that mānuka honey claims are not individual (monofloral, organic, indigenous) but stacked layers of credentials, each one building on the other. Market value is created with a solid regulatory platform at the base augmented by trusted certifications and claims – layers of cumulative regulatory assurance, scientific authentication, commercial certification, provenance signaling, and supply chain traceability systems. The following diagram illustrates the layers of credentials.

Diagram 1: Layers of credentials are required for premium value



Regulatory Requirements top the list

The most important credential for mānuka honey exports is compliance with regulatory requirements including food safety and the MPI definition. Product verified as mānuka is the foundational layer. Potency ratings (particularly UMF™ and MGO) are become core attributes underpinning consumer trust and price premiums. Exporters described overseas consumers as purchasing on the basis of perceived therapeutic quality, with higher UMF™ or MGO ratings directly linked to higher-value market positioning. Interviewees also noted that customers increasingly expect evidence to support these claims, including laboratory testing, QR-code traceability, certificates of analysis, and batch-level verification systems.

Credence Claims

In addition to this technical and scientific product substantiation base layer, some exporters we interviewed also provide credence-type certifications relating to organic production, indigenous provenance, sustainability, environmental stewardship, labour practices, and/or ethical practices. However, aside from organic certification and indigenous claims, it was noted that private certification schemes do not provide a complete supply-chain view. Although scope and assurance requirements vary considerably between certification systems many only apply to a single site, not the entire production chain. That said, several exporters emphasised that provenance and authenticity requirements are starting to become more granular, with demand from some buyers for evidence of traceability back to land blocks and beekeepers.

Market specific

Interviewees observed that export requirements are very market-specific, with certifications such as organic, halal, non-Genetically Modified Organism (GMO), glyphosate-free, and Brand Reputation through Compliance Global Standards (BRCGS) dependant on the market or market segment, whether through ‘brick and mortar’ retail store positioning or via digital marketplaces or platforms.

Table 1: testing, grading, certification and assurance systems used by interviewees

	Credential / Assurance	Frequency in Interviews	Perceived Importance	Primary Function	Indicative Heat Level
	MPI mānuka definition	Very High	Critical	Authenticity / market access	Foundational / Essential
	UMF™ grading	Very High	Critical	Premium differentiation	Foundational / Essential
	MGO grading	Very High	Critical	Premium differentiation	Foundational / Essential
	NZ origin / FernMark	Very High	Critical	Provenance / trust	Foundational / Essential
	Residue testing (glyphosate, tutin, pesticides)	Very High	Critical	Food safety / retailer compliance	Foundational / Essential
	Halal certification	High	High	Export market access	Core market requirement
	BRCGS	High	High	Retailer compliance	Core market requirement
	Organic certification	Medium–High	High	Premium positioning	Important differentiator
	Ethical sourcing audits/SMETA (Sedex)	Low–Medium	Growing	Social compliance	Emerging strategic priority
	Indigenous provenance/ Māori business claims	Low–Medium	Growing	Premium differentiation	Emerging strategic priority
	Ecosystem diversity/ sustainability claims	Low	Emerging	Future market positioning	Emerging future-oriented signal
	Non-GMO Project verification	Low	Low–Medium	Niche consumer markets	Niche / market-specific
	Kosher certification	Low	Market-specific	Specialist export access	Niche / market-specific
	B Corp certification	Low	Low–Medium	Corporate branding	Niche / reputational

Legend

Red / Foundational = Critical for market access and trust
Orange / Important = Operational or premium differentiators

Yellow / Emerging = Growing or future-oriented expectations
Grey / Niche = Market-specific or limited-use credentials

The above table summarises the relative frequency and stated importance of testing, grading, certification and assurance systems associated with export market requirements identified across the 9 stakeholder interviews we conducted with the New Zealand mānuka honey export sector. Some are regulatory requirements, some are marketing claims; all with differing levels of testing, audit or verification checks.

Econometric evidence: origin and authenticity matter

Though the project scope did not include a literature review or econometric study, the project team did a quick review of existing econometric studies on the source of price premia in global honey markets. Recent econometric and experimental willingness-to-pay (WTP) studies strongly support the interview finding that authenticity and New Zealand origin are the most important value drivers in Mānuka honey markets, ahead of organic or other sustainability credentials.

Across the broader honey literature, consumers consistently place the highest premiums on trusted origin, authenticity, and fraud-free assurance, with several experimental studies finding that origin effects outweigh both taste and organic certification. In Mānuka specifically, the evidence suggests that consumers primarily treat the product as a functional health good rather than simply a premium food product. Large-scale preference studies show that perceived medicinal or health properties are the dominant purchase driver, while authenticity and certified New Zealand provenance are critical supporting signals because of widespread concerns about adulteration and mislabelling in global honey markets. Experimental fraud-information studies also show large increases in willingness to pay when authenticity assurances are introduced. Within certified Mānuka products, potency indicators such as UMF and MGO ratings appear to drive substantial additional premiums, particularly at higher grades, reflecting consumer perceptions of therapeutic intensity and product efficacy.

By contrast, organic certification generates positive but comparatively weaker premiums in the Mānuka category and is generally treated as a secondary attribute. Overall, the econometric and experimental evidence aligns closely with interview findings: the strongest value drivers in premium Mānuka honey are authenticity, trusted New Zealand origin, and verified potency, with certification systems such as UMF acting as important mechanisms for substantiating those claims.

Indigenous claims and certifications

Mānuka honey occupies a unique position in New Zealand's export economy because mānuka itself is widely regarded by Māori as a taonga species with deep cultural, medicinal and environmental significance. The Mānuka Charitable Trust (MCT), which describes itself as the national Māori representative voice for mānuka, argues that mānuka is “more than honey” – it is an indigenous name, part of Māori healing traditions, and a product intrinsically connected to Aotearoa New Zealand and Māori identity. The group is built on a strong basis of collaboration across the industry, including with individual exporters and stakeholder groups we interviewed, and its role is reflected in the New Zealand honey industry strategy.

Māori stakeholders in particular stress the value of linking their products to indigenous values, sustainability practices, and community outcomes. One interviewee noted that their competitive advantage comes not only from proving their product is “New Zealand mānuka

honey”, but from demonstrating purity of local origin and authentic Māori stewardship throughout the supply chain. The value here is seen as being two-way – bringing value back to community and environment. They highlighted a strong emphasis on provenance, whakapapa, kaitiakitanga (guardianship), sustainability, and alignment with tikanga Māori and Te Ao Māori values as key sources of market differentiation. Contributing to sustainability and community, a focus was on regeneration of diverse native forest – with mānuka one species of tree amongst many, when working with landowners to plant new trees.

Looking ahead: market complexity is expected to continue

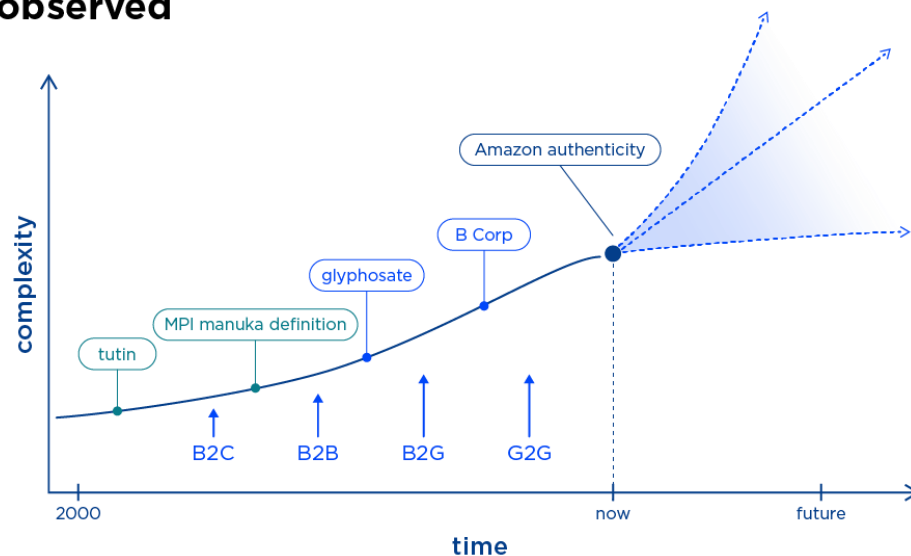
Interviewees consistently described a substantial increase in the complexity of systems required for exporting mānuka honey compared with the early 2000s. As illustrated in Graph 1, respondents observed that export markets now require significantly greater levels of product substantiation, including more extensive testing, certification, traceability, and documentary evidence. Stakeholders agreed that these pressures are being driven simultaneously by both market actors and governments. On the market side, buyers, consumers, online platforms, and major retailers increasingly expect exporters to verify claims relating to authenticity, potency, safety, sustainability, and provenance. At the same time, governments continue to impose additional regulatory requirements at the border and in-market, creating a layered compliance environment that firms must navigate. Exporters have to provide evidence to substantiate both “hard” measurable attributes — such as glyphosate residues, MGO levels, or MPI mānuka test results — and “credence” attributes, including organic status, halal certification, origin, and sustainability claims.

Most interviewees expected these requirements to continue increasing over time, particularly as premium export markets place greater emphasis on traceability and proof of authenticity.

Diagram 2: Changing market complexity for mānuka honey

What we’ve observed

In comparison with 2000/2010, the export market has become much more demanding in terms of product substantiation (claims made, testing, certificates, requirements in general etc).



Claim substantiation: current approaches and new digital tools

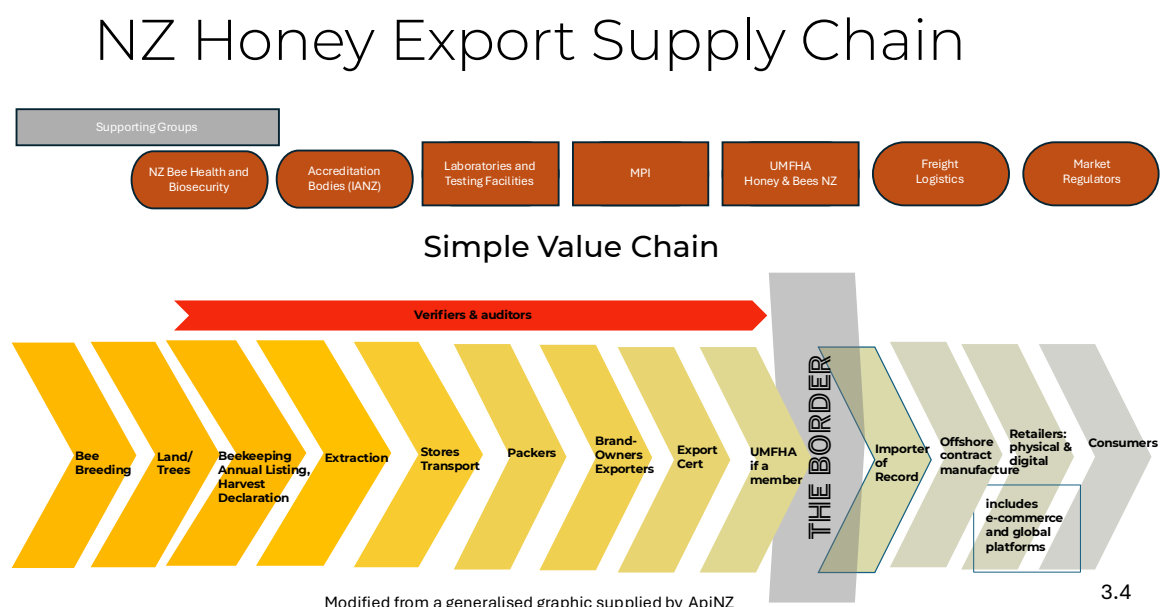
Interviewees described current assurance practices as relying on a combination of scientific authentication, certification systems, provenance documentation, and cultural narratives linked to Māori ownership, land stewardship and kaitiakitanga. These systems include MPI-recognised mānuka testing standards, UMF™ and MGO grading systems, export documentation, and product traceability records.

However, several Māori exporters expressed concern that conventional international certification frameworks do not always adequately reflect Māori values, tikanga-based approaches to sustainability, or indigenous concepts of guardianship and provenance. Instead, they emphasised the importance of systems capable of tracing honey back to specific whenua, beekeepers, and Māori ownership structures, allowing provenance and authenticity to be demonstrated in ways that align more closely with Te Ao Māori perspectives.

Several stakeholders noted that compliance processes remain highly fragmented and are still frequently managed through ad hoc exchanges of PDF certificates and email-based documentation. Many respondents suggested that substantiation is evolving away from one-off verification at the point of market entry toward ongoing validation at shipment, consignment, or even batch level. This shift was widely seen as likely to increase the importance of scale, interoperability, and digital infrastructure in future export systems.

Several stakeholders identified that interoperable digital standards could address these problems by enabling information to be shared more consistently across supply chains, regulators, customs agencies, retailers and consumers. In this context, digital labels, 2D barcodes, Radio Frequency Identification (RFID) systems and online product data platforms (such as BeeApp) were seen as important near-term developments.

Diagram 3: honey export supply chain



Trusted credentials: product identity authentication

Amazon's proprietary Transparency programme illustrates an important evolution in product authentication. Unlike traditional retail channels, online marketplaces often rely on automated verification systems rather than human review in order to detect fraud. This means that compliance information must be presented in a structured digital format that can be checked electronically.

Traditionally when we think about proving authenticity we think about providing evidence about a product — such as laboratory test results, certificates, or claims about origin. Amazon's Transparency programme adds another step. Before it considers the information attached to a product, the platform first checks that the product itself has a unique and valid identity (a globally-unique identification number tells Amazon that the product is real). In effect, Amazon is asking: *"Can I trust that this product is genuinely the item it claims to be?"* before asking *"Can I trust the information about it?"* This is analogous to checking that a passport is genuine before relying on the information printed inside it. The approach highlights the growing importance of trusted global identification systems as a foundation for digital traceability, product authentication, and information sharing across international supply chains. This development was seen by some as an important direction-of-travel indicator of the future of trust-building for the consumer; albeit with a proprietary system that only works for Amazon and its online shoppers.

Conclusions

Digital product substantiation: an investment in future competitiveness

Research highlighted that future market access depends on product credentials remaining trusted and that new digital systems can enable evidence supporting product claims to be shared more efficiently, consistently and at greater scale. At the same time, increased reliance on emerging digital technologies raises important questions about trust, governance and verification: how can businesses, regulators and consumers be confident that the information about their products is always accurate, authentic and secure? These issues are particularly important in premium export sectors such as mānuka honey, where value depends heavily on trust-based attributes including origin, authenticity, sustainability and provenance.

Global retail and logistics supply chains have been addressing similar challenges for decades using digital standards that enable product and business information to be exchanged at a global scale efficiently. More recently, digital labels and interoperable data-sharing approaches have expanded these capabilities beyond supply chain procurement and logistics functions – to include regulatory compliance and even giving consumers direct access to product information (test results and conformance certifications).

Start with collaboration and the right digital foundations

The associated Policy Paper (NZPECC, 2026) identifies digital transparency as a key strategic requirement for export industries and advocates for greater collaboration between government and industry to support interoperable information-sharing across the honey supply chain, in order to enable greater automation, machine-to-machine integrations, and AI-enabled systems.

Complementing this, the Industry Playbook (NZPECC, 2026) outlines practical steps that businesses can take now to progressively adopt new approaches for sharing product information and substantiating claims directly from the product using data carriers linking to online content. While adoption requires changes to business processes, systems and data management practices, the benefits increasingly outweigh the costs as customers, regulators and supply chains move toward evidence-based verification of product claims and credentials. Change can be introduced incrementally; initial steps can be taken with minimal additional cost and then additional functionality added over time once the core building blocks are place (unique product identification being at the core).

Consider wider business integration opportunities

Digitalisation can drive three distinct types of integration: vertical (within a firm's hierarchical layers), horizontal (between different functions within a firm and its suppliers), and end-to-end (across the value chain and product life cycle) (Kagermann et al., 2013). While this research focused on product substantiation across the mānuka honey value chain, the interviews also highlighted opportunities for wider business integration. Exporters described managing information from beekeepers, laboratories, certification bodies, logistics providers, regulators and customers through a combination of spreadsheets, certificates, declarations and other manual processes. Several participants noted that quality assurance, certification, inventory management, export compliance and marketing functions often rely on separate systems connected through point-to-point data transfers. Interviewees also highlighted the value of greater vertical integration, with some firms pursuing "land-to-brand" business models that provide greater control over provenance, traceability and product claims.

These findings suggest that future research could usefully examine how digital standards and interoperable data systems might support broader horizontal and vertical integration across the primary production, processing and export functions of the mānuka honey sector.

Top down or bottom up?

Many of the most significant benefits of digitisation are realised when there is a critical mass of broader system-wide adoption and coordination (otherwise businesses taking up new digital information sharing systems must continue to manually input information into forms to accommodate the slower-movers). Some changes only become viable when enough participants adopt compatible standards and systems, creating the critical mass and the positive network effects needed for interoperability. For example, MPI's regulatory systems could potentially reduce duplication and manual data entry by using smart forms that pre-populate using existing industry data or by accepting secure and verifiable business credentials to speed up registration processes. These steps lay the groundwork for more substantial changes to export assurance and certification processes, aligned with broader supply-chain developments such as Advanced Shipping Notices, e-procurement systems, machine-readable export documentation, and secure digital credentialing technologies such as Verifiable Credentials. Such systems would allow product information and compliance records to be transmitted, verified and updated digitally across multiple actors and jurisdictions – rather than as it is now, with fragmentation, duplication and siloes.

Interviewees and supporting literature suggest there are several areas where government could play an enabling role. Near-term opportunities include supporting common identifiers for products and businesses, improving interoperability between regulatory and industry systems, and starting to develop understanding and build capability within government agencies to allow regulatory systems to incorporate secure digital credentials (eg, to replace existing registration processes – taking out some of the costs associated with current manual business verification processes) and to set a clear implementation course for those in the private sector that are yet to begin their digitalisation journey.

There is also an important role for New Zealand government officials in participating in emerging international digital standards and regulatory forums (such as UN/CEFACT and the UN Transparency Protocol), to build understanding and capability within the New Zealand system to ensure that future systems are compatible with evolving overseas ones, and to build a new type of trade facilitation and trade negotiation capacity and capability – one where digital standards become a part of the trade negotiating and trade diplomacy landscape, in the same way that international food safety and biosecurity standards have to date.

Looking ahead, digital standards are likely to become increasingly important for demonstrating compliance with importing-country import systems and regulations relating not only to food safety and labelling, but also sustainability, labour standards, packaging rules and broader ESG-related requirements. Early investment in interoperable digital infrastructure may therefore provide both immediate efficiency gains and longer-term strategic advantages for New Zealand's premium export sectors. As the Industry Playbook outlines, there are immediate steps that businesses can take themselves to ensure the right foundations are in place. The ability to share information directly from the product itself using two-dimensional barcodes (using Digital Link standards and resolvers) that link to multiple online information sources is a game-changer.

The data carrier (barcode or RFID) on the packaging then becomes the 'anchor point' for product information - different sources of information can be accessed via the web and content can be updated without the need to re-print the packaging. This means that product information can be shared without the need to upload to a single common platform. Each business can continue using their own systems but still provide a gateway to the information needed to substantiate their product claims. This approach allows for data interoperability and scalability. Information can be shared across industries, jurisdictions and regulatory environments without requiring wholesale replacement of existing systems. At the same time, if a proprietary platform is already being used, the system can provide access to permissioned information (via the 2D barcode) that customers, regulators and consumers can access.

An important insight from both the UN Transparency Recommendation and NZIER's work on paperless trade is that successful transformation requires both top-down and bottom-up change. Government has a critical role in creating enabling policy settings, trust frameworks and interoperable regulatory systems. Industry can also start the journey and collaboration is crucial – to develop cross-sector and national-scale practical implementation models and demonstrate business value through real-world use cases. The mānuka honey sector provides one such case study. By exploring how claims, certifications and provenance information can be linked and exchanged digitally, the sector can help inform wider approaches to digital assurance and transparency across New Zealand's export economy.

Implications beyond mānuka honey

Although this research focused on mānuka honey, many of the underlying trends identified through interviews are not unique to the apiculture sector. The international policy trends and digital transparency requirements identified in the study are likely to have implications for other New Zealand export sectors, particularly those reliant on provenance, sustainability, quality assurance, indigenous value propositions, and trusted product claims.

Sectors such as wine, seafood, meat, dairy, horticulture, wool, nutraceuticals and forestry products are increasingly exposed to growing expectations for verifiable information relating to origin, environmental performance, labour conditions, carbon footprint, biodiversity impacts, and ethical production practices. In many cases, these sectors face the same structural challenges identified in this research: fragmented information systems, inconsistent reporting standards, duplicated compliance processes, and growing pressure to provide digitally accessible evidence across complex international supply chains.

The KPMG Agribusiness Agenda 2026 – which notes that changing consumer expectations, technological change, climate-related pressures, and increasing market complexity are reshaping New Zealand’s food and fibre industries – highlights these common structural challenges. KPMG argues that maintaining relevance in global markets will require greater investment in infrastructure, innovation, technology and data capabilities, and highlights the need for improved data exchange and interoperability across the agriculture sector. These themes align closely with the challenges identified through this research, suggesting that pressures for trusted digital substantiation and information exchange are likely to extend well beyond the mānuka honey sector.

Digital infrastructure: the next evolution of New Zealand’s trade system

The findings suggest that digital substantiation and interoperable trust frameworks should not be viewed solely as a mānuka honey issue, but as part of a broader transition in New Zealand’s trade architecture. As international markets move toward product-level transparency and digitally verifiable claims, trusted information exchange is becoming an increasingly important component of market access and international competitiveness. In this context, digital substantiation of product credentials becomes foundational trade infrastructure in the same way that ports, roads and export certification systems are today. The latest KPMG Agribusiness Agenda report suggests that business leaders understand this: the report notes that “digital infrastructure will be as important to food and fibre businesses as it is to any other business³.

The UN Transparency Protocol (UNTP), a framework for trusted data exchange, developed to support the implementation of UN/CEFACT Recommendation No. 49 (Transparency at Scale), provides one possible model for how this evolution could be achieved at a national scale. Rather than requiring information to be consolidated onto a single platform, it works on the concept that supporting evidence can remain within existing business source systems while becoming discoverable and verifiable across supply chains – including for regulatory purposes. A business or production process can be registered, verified and/or certified once and that credential can then be shared multiple times.

³ [KPMG Agribusiness Agenda 2026](#)

This makes trust, governance and verification crucial to ensure that businesses, regulators and consumers can be confident that the information being shared is accurate, authentic and secure. Such change is not a quick fix that can be achieved from a single technology project. It is more fundamental than that – it represents an evolution of the trade system. For New Zealand exporters, if done systematically, this offers a potential pathway to scalable trusted product substantiation and future competitiveness.

Next steps

This research highlights an important strategic opportunity for New Zealand. Because many of New Zealand's export sectors compete primarily on trust-based value rather than low-cost production, the ability to substantiate claims credibly and efficiently may become a key source of competitive advantage. At the same time, failure to adapt could expose exporters to rising compliance costs, reduced market access, reputational risks, and increasing exclusion from premium markets that are increasingly requiring structured and interoperable systems. These risks may be particularly significant for SMEs, which often lack the resources to navigate fragmented assurance systems and overlapping reporting requirements.

The NZIER paper⁴ *Enabling Paperless Trade* highlights that the next stage of trade facilitation extends beyond digitising existing paper documents. The larger opportunity lies in enabling structured, machine-readable information exchange between businesses and government agencies, reducing duplication, improving compliance efficiency and creating the foundations for more automated and trusted trade processes. Viewed through this lens, product substantiation can be understood as part of New Zealand's broader paperless trade transition. Claims, certifications and regulatory attestations increasingly need to be provided as digital information rather than as emailed PDF documents, certificates and spreadsheets.

This is also consistent with the 2026 KPMG *Agribusiness Agenda* report, which argues that maintaining relevance in global markets will require investment in infrastructure, innovation, technology and capability. As highlighted in that report, industry leaders understand this: they identified poor data quality, technology integration challenges, and the need for stronger data-sharing systems across the food and fibre sector.

Practical steps

Several practical actions emerge from the research. In the near term, there are opportunities to improve interoperability between existing industry and government systems and reduce reliance on paper-based documentation by encouraging the adoption of common identifiers and standardised, open-source digital information exchange mechanisms. This creates the ability to link information about products and their production systems to individual items and even specific batches of product.

Government agencies could also begin preparing regulatory systems for the issuance and verification of secure digital credentials, while participating more actively in digital standards and digital trade initiatives to ensure New Zealand systems remain internationally aligned.

⁴ <https://www.nzier.org.nz/publications/enabling-paperless-trade-a-long-hard-slog>

Over the medium term, a more coordinated national approach may be required to support trusted digital substantiation across export sectors. This could include collaboration between government, industry bodies, Māori leaders, standards agencies and technology providers to develop interoperable frameworks for product substantiation – including traceability, provenance, certification and sustainability reporting. Developments like the UN Transparency Protocol provide a guide which can be adapted to the New Zealand context to be able to achieve this at scale. Getting involved now to build understanding of how these systems could be incorporated within a New Zealand context will ensure that emerging digital systems are implemented in a way that is inclusive and accessible for SMEs and capable of supporting Māori indigenous provenance models.

Core infrastructure

Ultimately, the challenge identified through this research is not simply one of improving traceability or digitising existing documentation – emailing PDFs is still paper-based. It is about creating the conditions for trusted, interoperable exchange of product information efficiently, and at scale. Mānuka honey provides a useful case study because it demonstrates how export value is increasingly built on layers of claims, certifications and evidence that must be shared across organisational boundaries and between both private and government systems.

The existence of various international initiatives – such as UN/CEFACT Recommendation No. 49, the UN Transparency Protocol, APEC’s work on digital exchange of traceability and ESG credentials, and broader paperless trade initiatives – suggests that digital substantiation is becoming part of the core infrastructure of international trade. New Zealand has an opportunity to move beyond fragmented document exchange toward a more connected and trusted digital trade ecosystem that strengthens both competitiveness and market trust.

References

APEC (2026) *'Improving Supply Chain Transparency with Digital Exchange of Traceability and ESG (Environmental, Social and Governance) Credentials to Facilitate APEC Trade Flows'*

[https://www.apec.org/publications/2026/05/improving-supply-chain-transparency-with-digital-exchange-of-traceability-and-esg-\(environmental--social-and-governance\)-credentials-to-facilitate-apec-trade-flows](https://www.apec.org/publications/2026/05/improving-supply-chain-transparency-with-digital-exchange-of-traceability-and-esg-(environmental--social-and-governance)-credentials-to-facilitate-apec-trade-flows)

Economic Commission for Europe (2025) *'Recommendation No. 49: Transparency at Scale – Fostering Sustainable Value Chains'* United Nations Economic and Social Council
ECE/TRADE/C/CEFACT/2025/3

Farmers Weekly: [Change is coming, says Agribusiness Agenda 2026](#)

NZPECC (2026) *'Policy Brief: Digital Product Substantiation - proving Mānuka Honey is the real deal'*

KPMG [Agribusiness Agenda 2026 | KPMG NZ](#)

Nixon Chris (2025) Enabling paperless trade NZIER [Enabling paperless trade FINAL.pdf](#)

Stevens, Peter (2026) Product Claims, Substantiation and Climate-Related Disclosures in the Value Chain through Digital Standards, unpublished paper NZ PECC.