Envisaging low emissions future farm systems in Aotearoa

EXPANDING BLUEBERRY PRODUCTION IN NZ

Expanding the commercial production of blueberries in Aotearoa, New Zealand has several potential benefits, including diversification of income through farm scale integration, reduced greenhouse gas emissions compared with pastoral farming, and high investment returns. There are numerous opportunities to expand the sector and improve its overall success and sustainability. However, there are also some hurdles to overcome.

This summary document covers the key, high-level findings of "**Blossoming Blueberries? An analysis into the opportunity for the commercial expansion of blueberry production in New Zealand**", one of a series of reports prepared for the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC).

These reports examine potentially viable diverse land uses in New Zealand that could provide alternatives to the largely mono culture and ruminant-dominated pastoral agriculture systems across our landscapes at a more expansive farm systems perspective.

Blueberry exports have been increasing

Annual production is approximately 3,000 tonnes of blueberries, generating $40 million to the NZ economy. Key exports are to Australia ($35 million, 2021) as fresh, chilled berries. Exports have grown substantially since 2000.

Currently there are approximately 800 ha of blueberries in NZ.

Blueberries are highly profitable on paper, due to the value of fresh berries for export. At $15/kg, where plants yield 4-5kg at a planting rate of 1,876 plants per ha, gross margins for blueberries can be $80,000/ha.

While there is a significant capital investment involved, most blueberry plantations will achieve net profit between years 4 and 5, with the most profitable years being 6 – 10.

All increases in blueberry production in New Zealand have been successfully absorbed by the export industry, with further opportunity to grow

Existing limitations on sector expansion

Based on the apparent financial returns from blueberry production (internal rates of return between 6 and 11%) and there being no obvious limits to capital availability, the primary reasons limiting blueberry expansion appear not to be financial.

The main limitation to the expansion of blueberries would seem to be the fragmented structure of the sector, product shelf life causing higher freight and biosecurity costs, labour availability, access to technical support and expertise and existing post-harvest infrastructure – all things that might limit the long-term potential of the sector and with it, the confidence of farmers to invest given the long (11-16 year) pay-back period of development.

Solutions for the sector to consider

- Improve yields from new and existing varieties and improved management practises not yet achieving their potential due to inadequate training labour and inadequate lighting.

- Invest as larger scale collective developments to reduce weighted average cost of capital and improve margins from the ability to invest in larger scale developments with pooled capital for economies of scale.

- Limit the costs of compliance to growers by streamlining processes and information sharing.

- Invest or partner with owners of existing commercial post-harvest infrastructure (including other horticulture sectors infrastructure such as kiwifruit) to achieve economies of scale in this aspect of the supply chain.

- Make better use of marketing the credence attributes achieved by New Zealand growers to achieve a higher price per kg.

• Partner with other exporting businesses to establish scale and contracts with freight businesses to give improved consistency and stability of freight scheduling to reduce overall freight costs whilst having the contracted product prioritised.

• Invest or Partner with key international market importers and industry bodies to secure trust within the supply chain and the New Zealand product quality to gain efficiencies in logistics and biosecurity among achieving a greater economy of scale.

• Propose alternative fumigation techniques in key export markets such as irradiation fumigation or others that do not require lifting the temperature of the product, ultimately to limit degradation of imported product at international boarders so price per kg product is not significantly reduced.

• Utilise controlled atmosphere storage and shipping methods to distribute supply more evenly with market demand to improve shelf life of fruit and receive a greater return per kg of product.

• Create a cooperative for all New Zealand and Australian growers to improve access to market, access to resources and expertise whilst producing one brand for New Zealand produce that can be more easily recognised in international and domestic markets.

• Create further demand for New Zealand branded blueberries to lift price/kg, through continuing negotiations with countries in East and Southeast Asia (particularly China) and investigate the price competition of products in European markets when taking advantage of the controlled atmosphere shipping option.

• Assist or incentivise uptake of autonomous or high-tech harvesters to reduce cost of production and improve overall returns whilst reducing risk of having labour shortfalls.

• Attract and retain a network of quality seasonal workers to complete any additional work required from further blueberry developments.

• Develop and train workforce within the sector to secure the succession of the sector and encourage innovation and improved management within operations.

All these elements require a degree of industry cooperation and coordination that seems not to currently exist within the sector. It seems unlikely that individual growers or small groups of growers will be able to sufficiently address these issues themselves.

While there is no requirement for (or evidence to justify) a single-desk seller, sole exporter or exclusive supplier of plant varieties for the blueberry sector, there does seem merit in having a large number of growers being part of a pan sector entity/organisation that could provide clear industry leadership, coordinate grower efforts to address supply chain inefficiencies, advocate for grower interests in market and lead investment in research and development.

GHG emissions versus other land uses

Unless there is significant improvement for market access for New Zealand blueberries, reduced freight, packing and harvesting costs to improve gross margin returns, along with improved shelf life of the product achieved, the expansion of the blueberry sector seems an unlikely solution to be of sufficient scale to have a nationally significant impact on land use change and greenhouse gas emissions reduction in New Zealand.

However, blueberries could be seen as an option in the toolbox for individual properties and collectives to reduce their emissions footprint whilst making a greater return on the land than previously in pastoral farming.

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