
Leaf protein from pasture A New Zealand Opportunity

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New Zealand's ability to produce high quality, animal-derived protein ingredients is globally recognised. However, this capability has yet to be leveraged for the production of high-quality plant-derived alternatives. The New Zealand Institute for Plant and Food Research Limited (Plant & Food Research) has investigated emerging plant protein opportunities for the New Zealand environment. This is a complex subject, and our research has been aimed at tackling key fundamental questions:

- What crops can be sustainably and competitively produced and processed into protein ingredients?
- What are the processing technology challenges and opportunities?
- How do concepts stack up economically and how can they work synergistically with existing farm systems?
- What are the nutritional and functional qualities of different plant-protein products?

Our work has identified and prioritised multiple crop types that have potential as feed stocks for a plant protein food ingredient industry under conditions prevailing in New Zealand. Of the crops evaluated, the leafy pasture crops, particularly alfalfa, ryegrass, and other cereal crops, are likely to be the most successful, given our natural advantages in growing these. The supply benchmark was set based on initial estimates for the minimum feedstock needed to support a commercial factory and to ensure there was an adequate supply to support development of an export market. Our early research suggested that efficient high-yielding processes are critical, and now our focus is the pilot-plant scale-up work necessary for commercial success.