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Food Miles

Food miles is a very simplistic concept relating to the distance food travels as a measure of its impact on the environment. As a concept food miles has gained some traction with the popular press and certain groups overseas. However, this debate – which only includes the distance food travels – is misleading as it does not consider total energy use, especially in the production of the product.

The food mile concept has potential to threaten New Zealand exports given New Zealand's geographical location. The solution proposed by food miles campaigners is to source food from as close to where it will be finally consumed as possible. Thus as 50 per cent of NZ exports are in food and beverages, of which approximately a third go to EU markets, the potential risk is significant.

This study looks at the environmental impact of some key New Zealand export products. The environmental impact calculations are based upon a life cycle assessment (LCA) type approach and include the energy use and CO₂ emissions associated with production and transport to the UK. This is a much more valid comparison than just distance travelled as it reflects the differences in countries' production systems. These were then compared to the next best alternative source for the UK market. The products examined were dairy, apples, onions, and lamb.

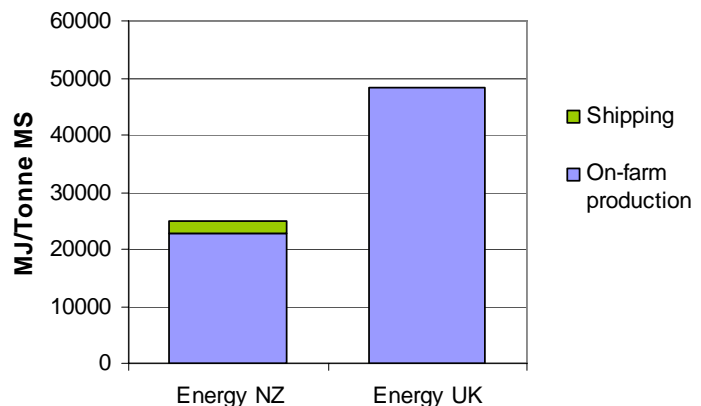
The analysis therefore first identified the farm production system in New

Zealand and the relevant EU country which could be used as an alternative source of supply to the UK market. In general, data on production systems and energy use was much more comprehensive for New Zealand than for the alternative EU country. This has led to the New Zealand estimates of energy use and emission associated with production being more inclusive than those for the alternative EU country.

Comparison of energy used and CO₂ emissions between NZ and UK Dairy.

The UK uses twice as much energy per tonne of milk solids produced than NZ, even including the energy associated with transport from NZ to the UK. This reflects the less intensive production system in NZ than the UK, with lower inputs including energy.

Total Energy Indicators for NZ and UK dairy production



Comparison of energy used and CO₂ emissions between NZ and UK Lamb.

The energy used in producing lamb in the UK is four times higher than the energy used by NZ lamb producers, even after including the energy used in transporting NZ lamb to the UK. Thus, NZ CO₂ emissions are also considerably lower than those in the UK.

Comparison of energy used and CO₂ emissions between NZ and UK Apples.

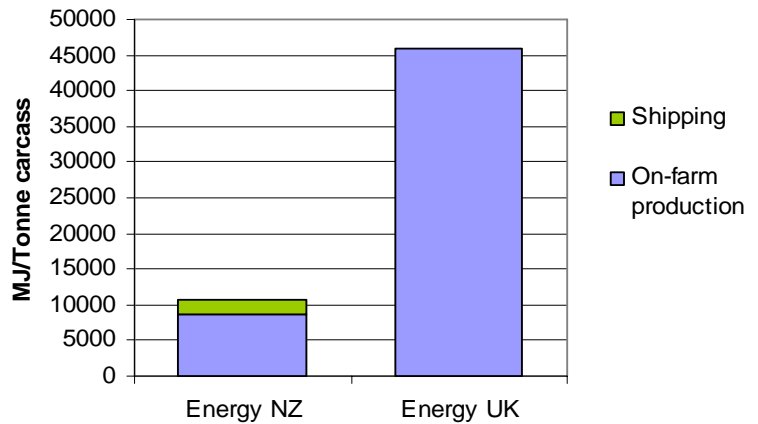
NZ is also more energy efficient in producing and delivering apples to the UK market than the UK is. NZ energy costs for production are a third of those in the UK. Even when transport is added NZ energy costs are approximately 60 per cent of those in the UK. Consequentially the CO₂ emissions per tonne of apples produced are also higher in the UK than in NZ, reflecting the higher energy use but also the lower emissions from NZ electricity generation.

Comparison of energy used and CO₂ emissions between NZ and UK Onions.

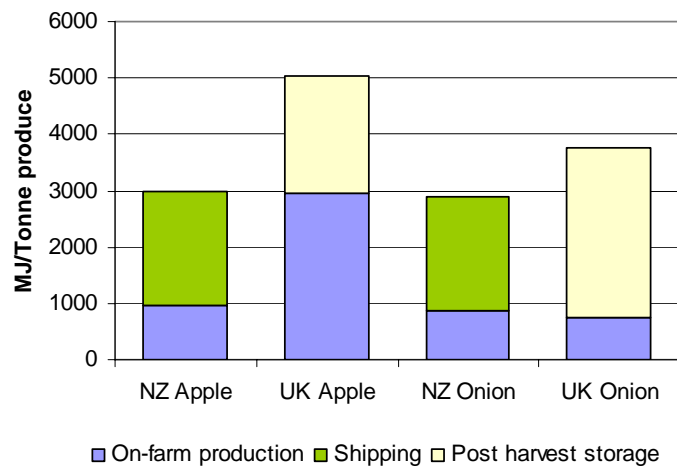
The energy associated with onion production is higher in NZ compared with the UK. However, when storage is included for the UK, so they can supply the same market window as NZ can, the UK energy costs rise to 30 per cent higher than those in NZ, even accounting for transport.

The report assumes that it is possible for other countries to supply UK market at current cost with produce of similar type and quality. This, of course, may not be the case given limited capacity of production, seasonal factors and different production environments.

Total Energy Indicators for NZ and UK lamb production



Total Energy Indicators for NZ and UK apples and onions



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