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The Potential for Out-of-Season Beef Finishing Systems on Farms in the Lower North Island

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**A thesis presented in partial fulfilment of the requirements for the
degree of Master of Applied Science in Agricultural Systems and
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Abstract

Beef production in New Zealand is strongly seasonal and reflects the pattern of pasture production on which livestock farming is based. Providing a more uniform supply of beef cattle to processors has the potential to improve returns to the New Zealand beef industry, first by increasing the market opportunities for New Zealand products, especially in the more lucrative markets requiring fresh (short shelf-life) beef cuts, and second by improving the utilisation of capital invested in processing.

The primary aim of this study was to investigate the potential of Out-of-Season (OOS) beef finishing systems to reduce the seasonality of beef cattle supply to meat processors. The study focused on developing an understanding of the biophysical, social and economic factors that would affect the implementation of OOS policies for a sample of 14 farmers in the lower North Island. A Farming Systems Research (FSR) approach provided the framework for the field work and methods used in the study. A secondary objective of the study was to investigate the applicability of Farming Systems Research (FSR) methods for obtaining an improved understanding of the on-farm implications of OOS finishing systems and thereby enhancing the relevance of the findings to industry stakeholders.

The first phase of the study involved semi-structured interviews with eight meat industry key informants. Their views were obtained on the effects of the seasonal pattern of beef cattle supply and the potential of OOS production systems to address this issue. Semi-structured interviews with 14 farmers with contrasting farming resources in a defined study region were then completed. Data was obtained from these farmers in order to identify the constraints, costs and opportunities they associated with OOS beef finishing policies. The final phase of the study included three in-depth case farm studies. The whole-farm computer simulation model StockPol™ was used to investigate and quantify the costs and implications of OOS finishing systems for each case farm.

The seasonal pattern of beef cattle supply was confirmed as being a major disadvantage for processors and marketers in the New Zealand meat industry. Processing and marketing representatives believed that on-farm OOS beef finishing systems provided a realistic option for addressing the disadvantages. However, farmers believed that OOS finishing systems were less suited to, and more demanding of, their pasture-based systems. The effects of OOS policies on winter feed levels, summer pasture quality, and soil damage were identified by farmers as constraints to their adoption. The simulation of alternative production systems for the case farms suggested that premiums for cattle produced OOS would need to be about 20% above normal schedule payments in order to compensate for the lower biological efficiency of OOS systems.

While it was difficult to formally evaluate the success of the FSR approach, the methods used proved successful in obtaining a detailed understanding of the constraints and impacts of OOS beef finishing systems faced by farmers.

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