The Tactical Management Processes used by Pastoral-Based Dairy Farmers:

A Multiple-Case Study of Experts

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The Tactical Management Processes used by Pastoral-Based Dairy Farmers:

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Abstract

A competitive advantage of the New Zealand dairy industry is the ability of its farmers to produce milk from "*low-cost*" pastoral-based systems. Despite the importance of these systems to the New Zealand economy little is known about how farmers actually manage them. It has long been recognised that considerable variation exists between farmers in terms of milksolids production. An important reason for this is management capability. Some farmers have greater expertise in the management of pastoral-based dairy systems than others. Analysis of the management processes used by "*expert*" dairy farmers may help identify management practices "*less expert*" farmers could adopt to improve productivity. Such research would provide a cornerstone for maintaining the competitive advantage of New Zealand's dairy industry.

A particularly important period in relation to the management of a pastoral-based dairy farm is summer-autumn. Management decisions made during this time affect milksolids production in both the current and subsequent lactations. Management is also particularly difficult during this period because pasture growth, the farmers' primary source of feed, is highly variable. Therefore, this study set out to develop a model to explain the tactical management processes used over the summer-autumn by "*expert*" pastoral-based dairy farmers.

From a review of the normative and descriptive farm management literature, important concepts relevant to research into tactical management were identified. A longitudinal (three years), embedded multiple-case study approach was used to investigate the tactical management processes used by selected "*expert*" dairy farmers. From this investigation, a general model of tactical management was developed and compared to the literature. Importantly, the adoption of a suitable theoretical framework for case selection allowed more consistent and effective cross-study comparisons within the farm management discipline.

Several theoretically important findings were identified through the study. Factors that determined the case farmers' choice of planning horizon were identified, as were the termination targets they used to overcome the planning problems of interdependency and consequences. The case farmers used both qualitative and quantitative planning processes. A model of the informal planning process was developed that demonstrated how the case farmers modified their "*typical*" or predefined plan in response to prior learning, strategic and tactical decisions made previously, and the farm state at the start of the planning period. The importance of targets (standards) and contingency plans (components of the plan) for control was confirmed. New typologies for classifying targets and contingency plans were also generated.

A more refined model of the control process was developed. This focused on models of the important sub-processes: monitoring, decision point recognition, control response selection, opportunity recognition and selection, diagnosis, evaluation and learning. Similarly, typologies for classifying aspects of these sub-processes were developed or extended. Differences between "*structured*" and "*unstructured*" decisions were identified. The next challenge is to find ways to effectively transfer the practices of "*expert*" farmers to their less proficient colleagues.

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