INTRODUCTION

The dairy industry in New Zealand is a significant contributor (7% of GDP) to the national economy, earning NZ$7.06 billion and generating 23% of exports for the year ending June 2002 (Ministry of Agriculture & Forestry 2004).

In 2004/05 the New Zealand dairy industry processed in excess of 14.1 billion litres of milk from over 3.86 million cows in approximately 12 270 herds containing, on average, 315 cows (Livestock Improvement 2005).

The largest dairy company in New Zealand, Fonterra, has set a target to improve performance across the entire Fonterra value chain of at least 3 % every year (Fonterra 2002)

Dairy farming in New Zealand is a pasture-based, labour intensive process with milk harvesting requiring at least 26 000 people contributing 1.5 billion cow-milkings at a total cost of $200 million yr–1 (Clark et al. 2006a).

In the decade from 1994 cow numbers increased by 37% but herd size by 63% as a result of farm amalgamation. Cow numbers increased by 650 000 and 390 000 in the South Island and North Island respectively over the same period. Milksolids per cow and per hectare increased by 14 and 28% respectively and these increases together with increased farm size increased milksolids output per farm by 90% (Table 1).