

Australian dairy industry: Use of technology and management practices on dairy farms, 1991-92 to 2006-07

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- Since 1991-92, Dairy Australia has funded ABARE to conduct dairy technology surveys to develop a database to monitor farm management practices and the adoption of technologies in the dairy industry.
- Australian dairy farmers have continued to change their management practices and have adopted various technologies to improve performance and productivity. Improvements are mainly in the areas of dairy cattle genetics, herd health, shed management, supplementary feed and pasture management.
- This report presents results from the dairy technology survey covering the 2006-07 financial year, conducted by ABARE in 2007-08, and updates the results of the previous technology surveys (seven in all) conducted biennially between 1991-92 and 2004-05. These surveys are conducted as supplementary surveys to ABARE's annual Australian dairy industry survey.
- The dairy technology survey obtains information from dairy farmers on milking shed setup and management, feeding regimes, fodder conservation, soil testing, herd and farm management, participation in training courses, workshops and extension projects, and intended changes in farm management.
- The report includes an analysis of the relationships between the use of technology and management practices, and farm physical and financial performance.

Changes in Australian dairy industry

Between 1991-92 and 2006-07 the number of dairy farms in Australia declined by around one-third, while the concentration of dairy farms in Victoria has increased. Despite the decline in farm numbers, total Australian milk production increased by 42 per cent over the same period as total cow numbers and average milk yields per cow increased.

The Australian dairy industry achieved moderate productivity growth of around 1.2 per cent a year between 1988-89 and 2005-06. While further research is being undertaken by ABARE to identify other drivers of productivity growth, new technologies and improved farm management practices are identified to have contributed to productivity growth.

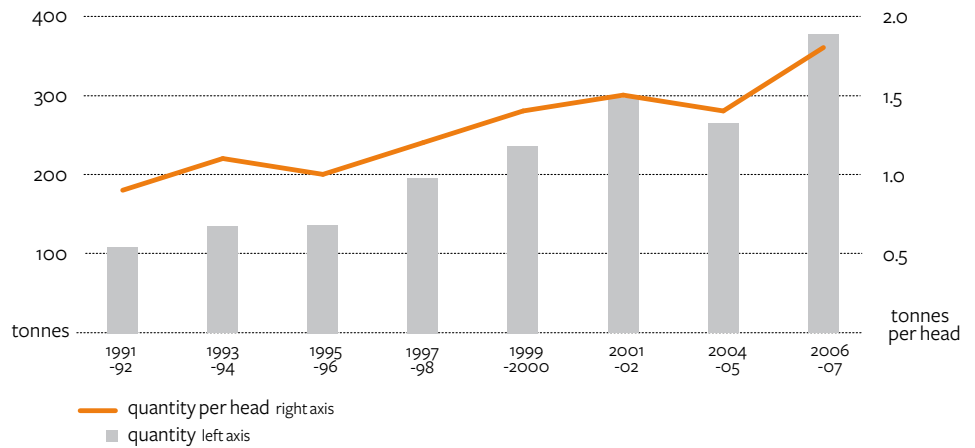
Use of technology and management practices

Since the early 1990s there has been a general trend toward installing or improving milking sheds and equipment to improve labour use efficiency and to cater for large-scale milk production. Increases in the number of cows milked per hour and per operator have been achieved by a

combination of changes, including labour saving technology such as increased use of automatic cup removers. The scale of milk production per operator has increased since 1991-92 with the shift toward larger capacity sheds resulting in more cows being milked.

Supplementary feeding of cows on concentrates and grains has increased significantly since 1991-92. The average quantity of purchased grains and concentrates used in 2006-07 was more than three times higher than in 1991-92, while the average quantity fed per cow has doubled.

Concentrates, grains and byproducts on dairy farms



An estimated 58 per cent of Australian dairy farmers conducted soil tests in 2006-07. The proportion of dairy farmers conducting soil tests was highest in New South Wales (80 per cent) and Western Australia (79 per cent) and lowest in Queensland (51 per cent) and Victoria (54 per cent). Of the dairy farms that did conduct soil tests in 2006-07, around 85 per cent made changes in fertiliser management.

Results from the 2006-07 survey indicate dairy farmers plan to attend a number of different training courses over the coming year, with courses on herd nutrition, feeding and pasture management deemed to be the most important.

Farm performance and dairy technology

On average, farms with higher total factor productivity – calculated by dividing an index of total outputs by an index of total inputs – tend to have larger dairy herds that are run more intensively than farms with lower total factor productivity. The better performing farms also obtain higher average milk yields, lower cash costs per cow and higher cash income per cow. Overall, results reflect higher rates of return for the better performing farms.

The survey results show differences in average costs per cow, milk yields and cash incomes among dairy farms by the type of dairy shed operated. Some of these differences can be explained by the way in which the technology affects either farm costs or milk yields. For example, rotary milking sheds are generally used on large scale milking operations where higher than average milk yields are achieved through intensive feeding of grain and concentrates.