ECONOMIC EVALUATION OF LABOUR SAVINGS FROM AUTOMATIC CLUSTER REMOVERS IN AUSTRALIAN DAIRIES

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Automatic cluster removers (ACRs) are a popular tool used in the dairy to reduce the need for labour and to improve conditions for workers and cows during milking. An economic analysis was conducted on a range of milking sheds and herd sizes to determine whether the costs associated with the installation of ACRs can be justified on the value of the saved labour alone.

The analysis suggested that the technology could be a good investment in many Australian dairies, with an internal rate of return (IRR) of up to 100% in some cases. The performance of the investment was determined predominantly by the size of the dairy, and the number of cows milked.

For example, in a 50 unit rotary dairy milking 600 cows, installation of ACRs and automatic teat sprays for AU $91,000, earned an IRR of 49%. In contrast, many small herringbone dairies can be operated by one labour unit, without ACRs, so it was difficult to find labour savings with the technology. Therefore the return from an investment in ACRs was lower than for rotary dairies. Larger herringbone dairies generally achieved IRRs high enough to justify the investment without any non-economic benefits. These returns ranged from 10% in a 'double-up' herringbone dairy milking 150 cows, to 100% in a 25 unit 'swing-over' herringbone dairy milking 300 cows. As with rotary dairies, it would be expected that returns would increase with increasing herd size.

The value of ACRs was also heavily dependent on the ability of the operator to make labour savings and the value of those labour savings on their farm. The IRR of the 25 unit 'swing-over' herringbone milking 300 cows was reduced from 100% to 30% if only half the expected labour savings were achieved. The wages paid to workers also influenced the returns on investment, but not as substantially as the shed and herd sizes. One critical assumption is that all labour on the farm is paid at market rates. Owner/operators who reduce their time in the dairy through ACR installation, but do not draw a wage from the farm, will not realise the returns achieved in this analysis.

While the cash labour savings are a major attraction, and are important in justifying the investment, there are potentially many non-economic benefits and costs associated with installation of ACRs. Some of these include different herd health issues, improved managerial control of the dairy, improved worker comfort and occupational health and safety, attracting and retaining quality labour, as well as flexibility and risk management. In some cases, these non-pecuniary benefits will be required for farmers to justify the installation of ACR technology.

Keywords: Automatic Cluster Removers, Labour Saving, Cost Benefit Analysis

March 2011 - ISBN 978-92-990056-7-5 - www.ifmaonline.org - Congress Proceedings