



Milk recording – a winning formula for dairy farmers

TEAGASC research shows that milk recording is a beneficial activity, which should be adopted by more farmers.

The benefits of milk recording in the post-quota expansion era

Irish milk production has increased by over 50% in the last decade, facilitated by the abolition of EU milk quotas in 2015. However, due to current uncertainty in export markets and ongoing policy reforms, economically sustainable dairy farming relies on competitiveness in international markets. Farm-level adoption of new technologies is an important component in this regard.

This research provides empirical evidence that farmers who adopt milk recording see clear benefits in terms of economic performance and animal health. More specifically, our findings indicate that, on average, milk recording increases gross margin by €42 per cow and milk yield by 406 litres per cow. Moreover, milk recording reduces herd-level somatic cell count (SCC) by 38,860 cells/ml on average. When translating these figures into percentages, milk recording results in a mean improvement of 4% in gross margins, 7% in milk yields, and 25% in herd-level SCC. Therefore, through dairy efficiency gains and reduced bacterial contamination of the milk produced, milk recording simultaneously decreases risk of mastitis incidence, improves product quality, increases output, and thereby gross margins.

Data and methodology

The data utilised to quantify the impact of milk recording is a subsample of 296 dairy farms from the 2015 Teagasc National Farm Survey (NFS) dataset. The survey is collected on a yearly basis on a nationally representative sample of Irish farms. Econometric techniques are applied to estimate the impact of milk recording by comparing adopters and non-adopters with similar profiles. More specifically, controlling for differences in farm and farmers' characteristics – such as herd size, degree of specialisation in dairy production, soil quality, level of

agricultural education, age, and access to family farm labour – allows for like-on-like comparisons and the isolation of the effect of milk recording alone.

Based on milk recording information, farmers can make informed management decisions about breeding and culling, and thereby improve overall herd production performance and animal health.

Milk recording uptake low despite benefits

Milk recording provides farmers with detailed information about milk yields, constituents, and bacterial contamination for each cow. Reports generated from milk recording also outline the Economic Breeding Index (EBI) of each dairy cow. Based on this information, farmers can make informed management decisions about breeding and culling, and thereby improve overall herd production performance and animal health. Moreover, data on individual SCC levels allows for the monitoring of mastitis at early stages of infection, even before symptoms become visible. It is important to note that milk recording organisations provide support to help farmers analyse the resulting information. From a practical perspective, milk recording is easy to implement. It is carried out during milking, either directly by the farmer with an electronic DIY meter (which does not require any technical skills), or by an external recorder who visits the farm. The



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technology does not require any upfront investment and costs around €12 per cow to milk record six times per year. Despite clear benefits, low costs and ease of use, uptake rates are quite low in Ireland, and have almost remained static over the last several years. For example, when compared to other European countries, only 51% of Irish dairy cows were milk recorded in 2017 compared to 85% in Germany (ICAR, n.d.; ICBF, 2018). Reasons for low uptake rates in Ireland are not fully understood, but one potential explanation is that non-adopters perceive milk recording to be too time consuming, or are not aware of the benefits. In fact, Dillon *et al.* (2018) found that Irish dairy farmers tend to adopt a reactionary versus precautionary response to elevated SCC. Their findings suggest that while cost is surprisingly not the main barrier to adoption of best herd management practices, time and labour constraints, as well as lack of perceived need to improve herd management routine, explain why dairy farmers do not engage with more effective management practices.

Implications for knowledge transfer

Given relatively low and stagnated adoption rates of milk recording in Ireland, it is important to explicitly highlight the advantages of the technology, mainly by focusing on three aspects. First, milk recording helps farmers to select a better-performing herd, which will lead to an extra 400 litres of milk per cow per annum (approximately). Second, it decreases avoidable costs due to poor udder health by detecting cows that are at risk of mastitis and reducing herd-level SCC by about 25%. Third, improvements in milk quality contribute to increasing the value for milk paid to the farmer, resulting in improvements in gross margins of at least 4%. As such, disseminating the findings of this study can help in providing farmers with information about the benefits of milk recording so they can make informed decisions on whether or not to adopt.

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