Useful metrics for labour efficiency on dairy farms

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Summary

- A key metric is total labour demand on farm.
- A second key metric is labour efficiency (h/cow/year) and this is useful for benchmarking across farms.
- A further key labour metric is number of hours worked per week.
- Labour time inputted by owner operator (farmer)/family or employees should not be a consequence of inefficient operations on farm.

Introduction

Labour productivity is a complex topic with a number of contributing factors. It is about optimising the use of available resources such as land, animals, equipment and people, to generate a profitable business, sustainable in social, animal and environmental terms. While management of land, animals and equipment is a critical issue, it is relatively straightforward compared to management of the labour resource and input. The latter is complex, since in addition to impacting on all aspects of the business, in some cases, it can become part of the fundamental question of the overall survival of the dairy farm business. To efficiently manage this essential input, the following questions need to be asked: how much labour is required by the farm system; how many people are available to work; how much labour can be supplied; what is the financial cost of labour. To answer these questions, labour input on farm needs to be measured using the correct units to make appropriate judgements on these parameters.

Total labour demand on the farm

Labour efficiency on farms has been measured in terms of h/cow per year and is a useful measurement for comparison across farms. However, to improve efficiency on individual farms the total labour demand on the farm and the number of hours worked per week are two key metrics. A recommended strategy is to conduct an estimate of the total labour demand (h/year) on the farm by recording start and finish times of the work-day and any significant non-work/break periods, on different weeks over the year, e.g. first week of each calendar month. This figure should be examined on the individual farm to establish if it can be reduced. The owner operator (farmer) and others working on the farm should also conduct a labour inventory of the practices, equipment and facilities on the farm. Even on 'labour efficient' farms, it is clear that facilities and practices on farms have a very significant impact on labour requirements. An organised approach to work and good time management by the owner operator/manager can also reduce work time input. This parameter is difficult to measure but a focused routine, optimum facilities and a good task management strategy can reduce labour requirement, e.g. from 3,107 to 2,561 h/year on farms of 140 cows approximately, as shown in a recent Teagasc study.

The farmer should then decide what amount of labour he /she wants to invest in the business themselves. Generally it is the h/week, length of the day, and a holiday period that dictate this. These are considered as important parameters in the industrial workplace, and are aspired to by current farmers, and particularly by young people considering farming as a career.

Hours worked per week

Data from Teagasc Discussion Group members indicated that a majority of dairy farmers (owner operators) are generally satisfied to contribute an average of 58 h/week, while other studies (reporting on questionnaires to farmers) suggest that they should have a target of 50–55 h/week, on average across the year. It is important that the owner operator is realistic about the amount of labour that he/she should contribute, taking into account health, safety, family time, and observations by potential successors. The owner operator will then need to fill the labour gap between the labour requirement and the level of labour that they are willing to supply themselves, with labour contributed by family members, contractors or by employees or a combination of any of these. The optimisation of efficiency in terms of facilities, practices and time management, means that payment to employees is for necessary work rather than for time due to inefficient operations on the farm. In certain cases, contracting out some routine tasks such as slurry spreading or calf rearing may be preferable to employing a person.

It cannot be assumed that a higher labour input is necessary to achieve higher cow performance (kg milk solids [MS]). Deming *et al.* (2018) showed that the most and least labour efficient 50% of farms (n=16) (range 14–21 h/cow/year and 22–34 h/cow/year) achieved 429 kg MS/cow and 426 kg MS/cow, respectively. It is also important that optimum standards of health and safety, animal welfare and environment are maintained, as these features can often be representative of labour saving practices.

Conclusions

To effectively manage labour demand on farm, it is necessary to measure labour parameters and identify appropriate changes. Labour input can be managed by reducing time required to complete tasks, re-scheduling tasks to even out demand and by contracting out tasks.