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Applying lean techniques to dairy farming

Joe Aherne discusses the experience and benefits gained from the application of Lean Techniques to a Dairy Farm



Background

This article outlines how dairy farming in Ireland can build resilience to fluctuations in earnings through adopting the Lean operations approach. It will address how standard Lean techniques used on a large dairy farm in Co. Waterford resulted in cash savings as well as freeing up time for the owner to work on growing the farm business.

Milk price volatility and the increased frequency in *boom-bust* cycles has driven farmers to seek opportunities to stabilise farm earnings and spend. The influence of global factors such as removal of milk quotas, lower oil prices, weather events, & political volatility has seen milk prices vary from 24c/Lt to 36c/Lt, which for large farms or farm groups can see a difference in earnings of €120,000 per 1 million litres produced.

Lean includes a set of techniques and a way of doing business originally developed by the automotive industry, but evolved over the last 30 years to meet the needs of almost all sectors. If you have people, processes or problems, you can reap the benefits of Lean.

The approach advocated in Lean, challenges farm owners and employees to carry out their day-to-day work easier, better, faster and safer. Lean seeks to identify and eliminate unnecessary activities so that work requires less effort, less capital and less time, but with excellent milk quality.

In late 2016, Leading Edge Group collaborated with the Captal Group to pioneer the application of Lean on the dairy farm of Pat & Pauline Ryan at Cappagh, Co. Waterford Ireland. Captal farms milks 1,500 cows on four farms, with a quantity of 450 cows on the home farm in Cappagh.

Analysis of labour cost at Cappagh farm for 2016 showed that labour carried throughout the summer/autumn period and unplanned daily work resulted in cost overruns at the Cappagh farm. The goal of the collaboration was to *"Implement a sustainable labour cost structure that work's within the constraints of the land and infrastructure, both of which cap the volume of milk produced"* that would improve resilience to impact of milk price volatility, improve productivity and reduce operating costs.

Complication

The busy nature of dairy farming and the desire to get the job done means that labour planning and communication can sometimes take a back seat which results in labour cost overruns. This has the knock on impact of drawing the farm owner into micromanaging the day to day activities of the farm, thus distracting the owner from growing the overall business.

The dairy farm demand for labour varies throughout the year and although this demand is predictable, there is no detailed budget plan to flex labour capacity to demand in the most efficient way. A high level plan is available to use additional labour when it is required, but this labour can be carried into subsequent periods where it is not needed.

Cappagh, like many large farms, uses non-English speaking workers that may not have a background in farming but still rely on verbal communication to roster jobs. The result of this is that day-to-day, hour-to-hour roles, responsibilities, goals &

objectives are not clearly understood. The upshot is that the farm owner or manager has to micro-direct basic tasks throughout the day. Ultimately jobs are not always done right first time with resulting labour cost over-runs.

In Ireland, dairy farming takes a scientific approach towards herdsmanhip and care of the land. The standard day to day processes such as milking are well refined and therefore have limited scope for waste removal without significant innovation and investment in new milking techniques. In reality, it is the accumulation of a frequent number of small issues that can have an impact on daily productivity e.g. broken gate posts, dung wash down and clean up, broken milk cluster, etc.

The aim of Lean is that employees can do more of the valuable good work and less unnecessary work.

The Resolution

In order to run to budget, a labour demand/capacity plan was created to hire labour only when it is needed. To do this, the year was divided into farm work periods based on milking once or twice per day, calving season and winter period. For each period a workload chart was created to understand where the work is to be done and the labour required to do it. The result was a labour 'grass' plan that set out the quantity of labour required throughout the year, and a labour budget plan to track the monthly cost of direct labour.

To ensure that everyone was working on the right jobs (whilst meeting the labour plan) a daily farm management process was put in place. Daily management is the process for ensuring that everyone knows what to do and are working on the right task. A daily stand up meeting process (DSUM) was set up with the labour force and manager to plan the work of the day, review performance and communicate key information.



To address the frequent small issues, daily *2-Minute Lean* was introduced. The review of the previous days performance at the DSUM highlights areas of work that may not run as planned. Managers and labour are encouraged to *'Go See & thoroughly understand'* the real situation and to work together to implement simple ideas that might only save 2 minutes. However, practicing *2-Minute Lean* everyday will see significant improvements over time.

To ensure that everyone was focused on supporting the farm group to reach its true potential, a Lean technique called 'Leader standard work' was introduced, the benefits of which include:

- Consistent practice across different farms
- Highlighting of managers that are overloaded
- Freeing up time to work on the business
- Clear accountabilities, roles, responsibilities & expectations

Leader standard work is built from the bottom up so that everyone is aligned to supporting the farm:

- Manager is focused on planned and supporting day to day farm jobs
- Owner is focused on supporting the managers & driving the business
- Board is focused on supporting strategic work of the owner

CONCLUSION

This case study shows that by utilising the Lean operations approach to the day-to-day running of a farm, dairy farming in Ireland can build resilience to earnings fluctuation. It shows how simple Lean techniques used on a large dairy farm saved money and freed up time for the farm owner to work on growing the farm business.

The benefits of the collaboration included:

- Certainty and control over labour costs for farm owners, with significant cost saving
- Increase cash available to plough back into the business
- Job and earnings certainty for labour
- Team work and the *power of many*
- Clarity that everyone knows they are working on the right thing
- Owner and managers' time freed up
- Reduced frustration as work is done right first time
- Problems are solved quickly without any fuss
- Clear communication for all employees

Lean techniques will work on Irish dairy farms, but to engage the appropriate experts and training, financial support will be required.