Case Study: Mark Hayward – Dingley Dell Pork

Farm Facts:

- 720 sow – outdoor unit
- Developed their own breed, the Suffolk Red, based on the Red Duroc, and bred for taste and flavour the hidden cost of old, worn-out ad-lib feeders
- Pork is sold to restaurants directly
- On average, a litter is 11.4 piglets, weaned at 35 days

Mark was keen to improve efficiency. He was interested in how his team of seven staff could look at the farm's processes and current communication to bring some structure to the business, as well as more productive work routines.

As one of the farm's main tasks, weaning was the natural starting point. It is a job best carried out in natural daylight, to be more in tune with animal behaviour and reduce stress levels. Sows are very protective of their babies, and when they are in daylight, they are more relaxed and happier because they can see properly. But weaning was taking from 5.30am to 9.30am or, on a bad day, 10am, because the farm staff might not have had a trailer on a tractor, not enough people or someone may have been running late.

Mark set his team the challenge of shortening weaning time. Using the lean process, the team spent two to three weeks discussing the jobs and writing each step down, considering options and variations to try out. Formalising the process meant everyone thought more about it. They talked through it, one step at a time, and came up with the answers.

The team looked at having stuff in place, the right people needed, and timed it. They discussed the implications of lateness. Since then, a quicker, slicker routine has shaved 1.5 hours off weekly weaning for the team at Dingley Dell Pork near Woodbridge, Suffolk. It has also reduced the number of staff required in the weaning team from four to three, and at a basic minimum wage rate, this has saved more than £3,200/year.

More importantly, for business owner Mark Hayward, it is time saved, improved farm efficiency and a boost to staff morale. People can finish work early or have more time off. Man hours can be used to pay more attention to the stock and maintenance jobs that don't necessarily get done regularly, such as cleaning out water troughs.

So, what's changed? The night before weaning, the trailer is hooked to the tractor and in the right place for the job. Whilst sows are encouraged out of their arks (houses) by placing a feeder just ahead of the trailer, so picking them up is a lot quicker. Simple changes, but they have made what can be a difficult job a lot simpler and efficient.

Student Activity: Can You Identify Which Solution is Best…

Solution 1 **Problem __**

1. Attach a penknife to the bale trolley with a chain so there is always a knife to hand.
2. Keep a length of bale twine on a nail by the door to split the bales using friction.

The Costs

Both solutions are low-cost options: £10 for a penknife and chain, or no costs for option two.

The Benefits

The estimated time saved from not having to look for a knife when mucking out equates to:

- 10 minutes per week
- 9 hours per year, or one shift (assuming a 9-hour day)
- £90 per year in labour costs (assuming £10 per hour wage)

The farmer reported that with this task completed more quickly, time could be put into other areas of production to yield further efficiencies across the business.

Solution 2 **Problem __**

Load all 10 bales of straw onto a small trailer and take them to the finishing sheds in one trip. While it would take a few minutes to load and hitch the trailer, it would, overall, take less time than carrying out multiple roundtrips.

The Costs

To purchase a second-hand trailer, the costs would be circa £2,000.

The Benefits

The estimated savings from implementing this new way of working are:

- 15 minutes per roundtrip, with three roundtrips saved (assuming it takes one trip to get there and 15 minutes to load the trailer in the morning) = 45 minutes every other day = 137 hours per year = £1,370 per year in labour costs (assuming £10 per hour wage)
- Plus, diesel savings and the added benefit of a lower carbon footprint

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Solution 3 **Problem __**

The passage in the farrowing shed is long enough to be split into three sections in which to sort the piglets into three batches of 150. Allowing one team to load piglets onto the trailer, while the other could continue to sort piglets by gender/size, making it easier to spot light piglets.

The Costs

There were no costs to implement this change in practice.

The Benefits

Estimated time and cost savings:

- 1 hour every three weeks (based on two staff waiting to load or sort piglets) = 17 hours per year = £170 per annum in labour costs (assuming £10 per hour wage)

While the savings are minimal, the real value realised by the farmer came from:

- Sorting piglets by size, leading to consistent groups of finishing pigs
- Tighter finishing weights, with more pigs meeting the target specification

Thus, not only saving time and money but also adding value and increasing efficiency.

Solution 4 Problem __

The team came up with two low-cost solutions:

- Equip each member of staff with their own 13mm spanner
- Implement shadow boards (workbench with outlines of the tools to be replaced) alongside each piece of equipment or machinery that needs a 13mm spanner so it is obvious when tools are missing

But opted for the shadow boards, as personal spanners could be put down or lost. The shadow boards stay with the equipment/machinery and provide a quick visual cue to make sure no tools are missing before leaving the yard.

The Costs

- £40 for 20 spanners (£2 per spanner – those not kept on shadow boards were kept in the store); 18 spanners were still present 12 months later
- £20 for plywood and bolts to build the shadow boards

The Benefits

The estimated time and cost saving was 30 hours per year per person saved on expensive tasks (arable cost per hour approximately £40), so a typical annual saving was approximately £1,200. In addition to the time and cost savings, staff relationships are less strained, especially during the busy harvest periods.

Solution 5 Problem __

A 15-metre extension cable was purchased so the AI cooler could be moved to the centre of the pen. This reduced the time to collect each semen dose by 15 seconds.

The Costs

15-metre extension cable at a cost of £10.

The Benefits

- A time saving of 15 seconds per dose across 48 serves equates to 12 minutes. With two services (minimum) per week, this is a saving of 24 minutes per week = 20 hours per year or £200 in labour (assuming £10 per hour wage); this is a conservative estimate as the back and forth often took longer than 15 seconds, e.g. dodging sows.

While staff found it challenging to notice 20 hours over a year, they also benefitted from:

- Fewer reports of staff collecting multiple AI doses to save on trips
- Sows were less agitated
- More time for checks, e.g. standing heat, hygiene and correct handling of semen
- Staff felt less pressured, and the AI process was a lot calmer

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Solution 6

Problem __

The team decided to try sorting pigs through the internal gates into the central dunging passage that they are more familiar with, instead of through the rear gates. The result was immediate, with pigs being less stressed and hesitant and easier to sort and load.

The Costs

No cost: This improvement only required a change in practice, rather than any investment.

The Benefits

The time taken to complete the task fell from 1 hour 40 minutes to 20 minutes.

The estimated savings are:

- 1 hour 40 minutes per staff member, or five hours in total, each time pigs are loaded
- The task is repeated twice every three months (first and third draw), which equates to 40 hours saved over the course of a year. So, the total cost saved in a year through reduced labour is approximately £400 (assuming £10 per hour wage)

The most significant difference for staff was that the task was notably shorter and less stressful, which freed up time to complete other important tasks.

The pigs were also less stressed.

Summary questions

1. What did all the pig farmers have in common that helped them to successfully implement lean production?

2. Brainstorm the main barriers of lean production.

3. Describe what efficiency within the pork industry looks like.

4. Explain two ways in which wastage on farm could reduce efficiency.

5. Analyse how lean production could lead to a more motivated workforce.