

Dairy Farm Labour

Working Smarter, Not Harder

**Top tips and case
studies for making
your farm life easier**

Developed by the
Lakeland Dairies/Teagasc
Joint Programme





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Foreword

Dear Supplier,



The Lakeland Dairies and Teagasc Joint Programme is aimed at maximising efficiency and profitability for dairy farmers on a sustainable basis for the future. The programme uses the findings of locally and regionally based research that is directly relevant to the needs of Lakeland Dairies milk suppliers.

Dairy farmers work long and hard, day in and day out. However, they need to pursue a business model that is sustainable and that also enables them to establish an appropriate work-life balance. As dairy farms continue to grow their milk production, this raises important issues around the provision of labour to cope with this expansion. It is one of the biggest challenges facing dairy farmers today.

Put simply 'labour' is about work and who does that work. Teagasc figures indicate that as many as 6,000 people will be required to fill on-farm roles in Ireland over the next decade with many of those on dairy farms.

For our part, we know that just over one-third of Lakeland milk suppliers currently employ staff on their farms. Of these, 8% employ staff on a full time basis and 28% on a part time basis. Two-thirds of Lakeland milk suppliers do not currently employ any people on the farm, other than the family's own inputs.

There is also the serious issue of health and safety on the farm. Your wellbeing is precious to you and your family and to all of us. Any one accident is one too many. Working safely is essential to overall sustainability and to your success.

Using practical examples, this booklet is designed to help your understanding of the wider issues involved for your farm relating to labour. It outlines the challenges involved in an expanding workload on dairy farms, with tips and recommendations - from our own suppliers - for our own suppliers.

Our mission is to promote and secure the livelihoods and sustainability of our dairy farming families and rural communities who also benefit through the economic advantages created by the development of our co-operative business. The starting point of all that is the high quality milk that you produce on your farm. That is a very pressurised job but, as the title of our booklet suggests, working smarter not harder can be a key element of your success and wellbeing.

Knowledge is increased a hundredfold when it is shared. I congratulate everyone in the Lakeland Dairies Teagasc Joint Programme and, in particular, the dairy farmers who have participated so meaningfully in preparing this information. Finally I thank you, our deeply valued milk supplier, for your ongoing support and encouragement of Lakeland Dairies.

Yours sincerely,

Michael G. Hanley

The Lakeland Dairies/Teagasc Joint Programme

The Lakeland Dairies / Teagasc Joint Programme was established to help suppliers improve their technical efficiency with regards to herd performance, fertility, soil fertility and grassland management. A key focus area is the financial and sustainability planning for expanding farms and for new entrants. If you would like to learn more or want independent advice for your farm contact one of our Programme advisors.



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Thank you to all the farmers showcased in this booklet for sharing their stories.

Lakeland Dairies would like to thank Teagasc, and all the Teagasc advisors, for their help in the making of this booklet and dedicated work helping milk suppliers in our catchment area to improve their sustainability and technical performance.



The Challenge: Workload on expanding farms

Since 2015, many farms in the Lakeland Dairies region have availed of the opportunity to expand dairy herd size and increase milk output.

While farm revenues have grown, this has also resulted in significant extra demand for labour on Lakeland farms. Adding more cows to the herd tends to reduce hours worked per cow, however the total hours worked on farm will inevitably rise. Such changes should be carefully considered as part of any plans to expand the dairy enterprise. To illustrate by example, we looked at a typical 85 cow herd and projected the likely changes in labour input should this farm increase herd size to 125 or 170 cows.

Measuring labour efficiency- hours work per cow

This metric divides the total hours work on the farm by the herd size.

Teagasc survey data has shown that hours worked per cow changes with scale (Figure 1). Larger herds tend to work less time per individual cow, gaining efficiencies with time dilution on some tasks. For example, washing the parlour will still take 10 minutes whether there are 85 or 125 cows milking. That said, variation in hours worked per cow can be massive across similar sized herds. This can be down to a number of reasons including milking interval, facilities and work organisation.

Figure 1 | Hours Work/Cow

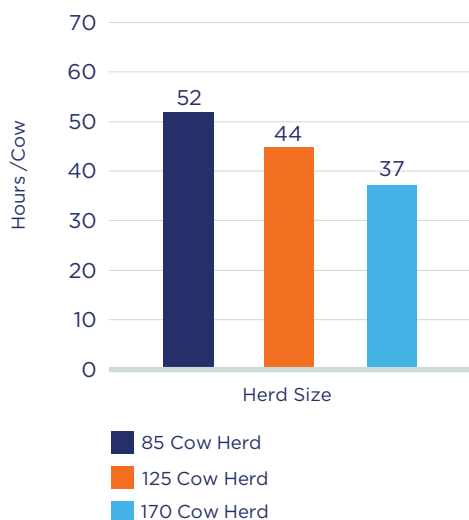
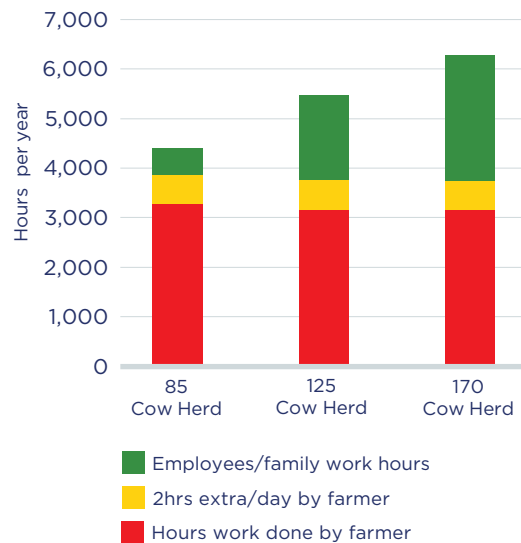


Figure 2 | Total Farm Work



While scale may improve work efficiency per cow, the gains made will usually not be enough to offset change in total workload. This results in more hours work needed on the farm overall.

In our example 85-cow herd, (Figure 2), the total annual hours worked is currently *52hrs per cow x 85 cows = 4420 hours total*. Increasing to 125 cows would mean a reduction of 8 hours per cow, however total labour would now be *44hrs per cow x 125 cows = 5500 hours total*.

This illustrates that even if work efficiency per cow improves with expansion, total hours worked on the farm still increases.

Figure 2 above shows the total hours worked on the farm, and how the balance between own and paid labour must change as herd size expands. Hours worked by the farmer are shown in red. The farmer in herd sizes 125 and 170 cows is working 60 hours a week while the farmer with the 85 cow herd is working 63 hours a week (as per results of Teagasc labour survey). At 85-cow scale and average work efficiency per cow, the owner-operator effectively has zero available surplus labour if the working week is to be retained at 60-63 hours of family labour. Other sources must be used to meet the demand. This shows the importance of adopting labour efficiency practices regardless of scale.

Where expansion is planned, it is clear that total labour required may increase beyond what can be delivered by extra efficiencies, or indeed by extra hours worked by the owner operator.

In our example chart (Figure 2), the yellow section shows the effect of the farmer working an additional 11 hours per week. While it closes the gap somewhat, it doesn't come near filling the labour deficit at the 125 and 170 cow scale. This is when paid staff become an essential feature of the farm business. It has been noted in recent years that farmers have tried to do all the extra work with an expanding herd, working up to 75 hours a week on average.

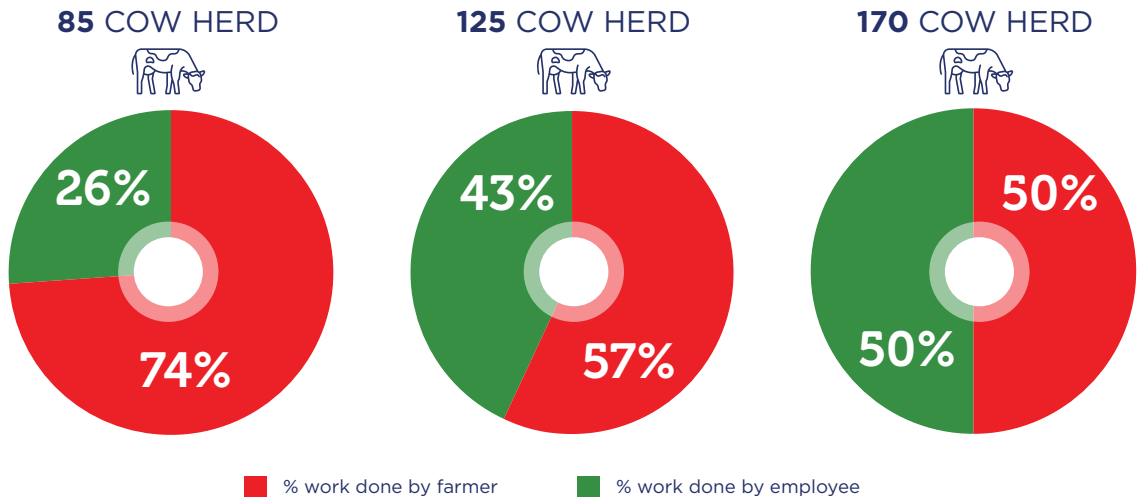
This practice is unsustainable in the long term and can lead to poor efficiency. One of the benefits of increased scale should be the ability of the farm owner to control their own hours worked.

The green section in figure 2 represents the work completed by family, full and part time employees and students. This section grows substantially and inevitably as herds expand. It must be planned for and costed into financial budgets. To maximise the value of paid labour and improve staff retention, it is vital that best-practice labour efficiency measures are adopted.



As herd size increases, the proportion of work completed by employees will increase (Figure 3). This is an important transition that the farmer has to make from working in the business to working on the business; from minding cows to minding people and cows. Employing and training good staff and providing an environment for staff retention in growing herds is essential to avoid shocks to your farm.

Figure 3 | Herd Size

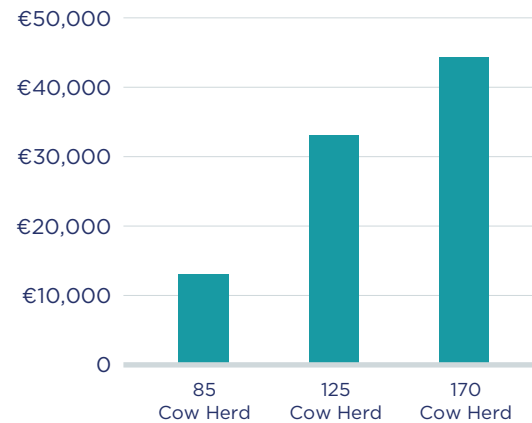


Understanding the cost of this labour

It is very common and understandable for farmers to want to reduce labour costs, especially during a cash-hungry expansion phase. Most will work more hours on the farm to control labour costs. However, this may not be sustainable in the longer term. It also often causes a major loss to technical performance which can end up costing more than the paid labour itself. Farmers already work hard enough and have enough pressure running a farming family business. Labour cost should be treated as a standard running cost to your farm, no different to fertiliser or feed. Good labour allows you to manage the business, to achieve high technical performance.

Some of the best and more profitable farms in the Lakeland Dairies region have labour costs of €450-€550 per cow including own wage. This has allowed them to extract better performance from their business. Make sure to include an accurate labour figure in your expansion budgets.

Typical Paid Labour Costs



TAKE HOME MESSAGES

- ▶ When herd size expands, the total hours worked on the farm increases, increasing the labour cost and increasing the reliance on employed labour, relief staff and contractors.
- ▶ Adopting new techniques and modern farming practices will have a positive effect on all metrics. If the hours worked are reducing on a farm this will reduce the hours work per cow, reducing the labour cost on the farm.
- ▶ Even if farmers work an extra 11 hours a week, it will have a minor impact on the proportion of work completed on the farm. All farmers should include an additional labour cost when expanding while improving the technical performance on the farm.



Move milking from late evening to afternoon

Evening milking times are decided by tradition or habit on many farms.

However changing the time of your PM milking can dramatically improve work organisation on the farm. Dermot Heaney of Kilberry, Co. Meath and Ciaran Boylan of Kingscourt Co. Cavan are two farmers who opt to milk at 3pm. They operate a 16-8 hour milking interval which is central to work efficiencies on the farm.

“There’s no point stretching the work to fill the day, there are enough busy days”

Dermot Heaney

The milking times I operate are 7am in the morning and 3pm to 3.30pm in the afternoon. This is a 16-8 hour milking interval. It is working extremely well on my farm and I am doing it for a number of reasons:

- 1. Better lifestyle.** The milking and all the farming are completed at 5-5.30pm which allows me to spend time with family and on hobbies.
- 2. Happier staff.** Fixed afternoon milkings at 3pm to 3.30pm ensure a consistent finishing time of 5pm.

This in turn helps retain staff and makes your farm more attractive for employees. My current employee has been with me for seven years.

- 3. Succession.** The 16-8 hour interval showcases dairying as a more positive career for the next generation.

Milking at 3pm helps organise my day. We aim to get a lot of farm jobs done between 10am-3pm. There is of course the occasional evening we run late after milking, at silage for example, but we find it important not to let the afternoon milking slip.

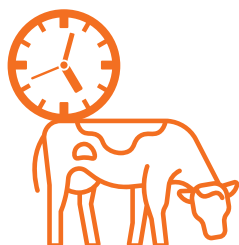




Ciaran Boylan

Milking times on my farm would be 6.30am and 3pm in the afternoon. I just find those milking times fit in with a modern life and with the cows performing and milking so well I won't be changing this system.

- 1. I have a young family and my wife works as well.** I leave children to school and do pick ups at 1pm which fits into my working day. I am able to spend evenings with my young family.
- 2. Easy to get relief milkers.** My relief milker never lets me down as he can milk my cows in the afternoon any time after 2.30pm. This allows him to milk other herds if he wants to.
- 3. I'm prepared for the milking.** I'm not rushing the milking to get finished for the evening. Starting in time makes milking part of the main work day. If a cow is sick or something breaks it means I'm not out all night milking.
- 4. Busy spring periods.** Time after the afternoon milking can be used to prepare for tomorrow's farm jobs to boost productivity.



When changing to a 16-8 hour milking interval. What effects on workload and yield will I see?

Workload

The change to earlier milking times has the potential to save seven to 10 hours of workload a week.

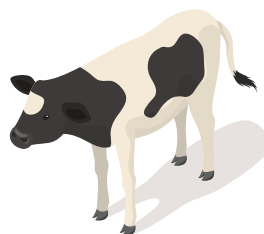
Farms which have made the change to an earlier afternoon milking have a targeted finish time of 5pm-6pm. This encourages them to be more efficient between milkings. Also the milking is being done at a time of day when the farmer is more alert and able to focus on an efficient milking routine.

Yield

Dermot and Ciaran operate a 16-8 hour interval and have reported no change in milk yield or SCC on an annual basis, which many of the top 10% of Lakeland herds agree with. This is supported by Teagasc research reporting that a 16-8 hour interval has no change in milk yield and quality compared with a 12-12 hour interval.



Be prepared for calving season



Being prepared for spring is the key task on Nicholas Kearney's farm in Co. Offaly.

This list below was written up five years ago and added to over time. Once the cows are dried off in December each day at least one job is selected off the list and completed.

I have a strong belief that if you're not prepared for spring or calving season you're going to fail at it. I find calving season is split in two halves. The first half is getting prepared. So getting all the supplies in advance such as iodine, electrolytes, cubicle lime, fence posts, is very important to avoid unnecessary trips to the store. Secondly, have all the calving and grazing facilities ready. I make a check on the electric fences and repair any roadways in advance of calving.

Thirdly, I get all the administration done and out of the way in January. I do a farm walk to understand my average grass cover on my farm, I get the medicine book up-to-date. Then it is time for the second half of spring - the start of calving. With the preparation already done I can focus on a successful calving season.

Nicholas's list of pre-calving jobs

Administration:

- ✓ Make out a list of daily/ weekly jobs.
- ✓ Communicate spring targets to staff.
- ✓ Get white board cleaned/ replaced.
- ✓ Do a grass walk. Know AFC and set up spring rotation planner.
- ✓ Decide on Fertiliser plan for the spring. Write in calendar. Order fertiliser.
- ✓ BVD lab envelopes, get stamps, check postage.
- ✓ Ensure vet register and herd register up to date pre-calving.
- ✓ Order calf tags, tagger.
- ✓ Get in calf rearing refresher event with the staff.
- ✓ Get spare waterproofs, gloves and boots for visitors.



Stock:

- ✓ Get silage tested for quality and mineral scan.
- ✓ Order dry cow minerals to suit silage.
- ✓ Have dry cow feed plan in place for thin/fat cows.
- ✓ Vaccinate cows for calf scour.
- ✓ Order cubicle lime.

Calf/calving shed:

- ✓ Calf sheds cleaned and disinfected.
- ✓ Teat feeders cleaned and teats replaced.
- ✓ Containers to freeze colostrum. Check freezer is working correctly.
- ✓ 2 ltr cartons for ice and snap lid buckets.
- ✓ 2 stomach tube/teat bottles.
- ✓ Straw ordered.
- ✓ Calving shed ready for calving, calving gate working.
- ✓ Calving Jack checked, ropes and spare ropes.
- ✓ Gel and long sleeved examination gloves.
- ✓ Tagging toolbox. Tags, notebook, taggers, pens, iodine, sample bag.

Parlour:

- ✓ Train heifers to parlour.
- ✓ Get parlour serviced, order chemical/teat dip. Get foot bath sorted.
- ✓ Tag heifers for drafting gate.
- ✓ Do a check on yard lighting.

Fields/Roads:

- ✓ Fence reels repaired.
- ✓ Roadways repaired. Fences and drinkers checked after winter.

Other items to check:

- ✓ Cow marking spray. Red and Green.
- ✓ Injectable antibiotics for cows and calves, oxytocin.
- ✓ Calcium and Magnesium.
- ✓ Needles, syringes, flutter valve and spares.
- ✓ Electrolytes, red lamp, Calf jackets.

Simplify calving and calf management

Seamus Murray, Co. Monaghan runs a compact calving herd but has aimed to reduce the workload during calving season and calf rearing with a number of simple ideas.



"Over stocking calf pens is a recipe for scours and sick calves"

March and April is the busiest time on my farm. Being prepared and having an effective calf routine saves me many hours work.

The bulk calving pen is very handy. I look through the dry cows daily and put any cows close to calving in the bulk calving pen. There can be 15 cows in the pen at any one time. The bulk pen is great. It is serviced with water and has access to a feeding rail. I leave a block of silage at the barrier. This was a big saving compared to years ago having one cow per pen and bringing a barrow of silage to each cow.

The cows calve in the bulk pen and the priority is to get colostrum into the calf ASAP. I milk every cow in the parlour and bottle/stomach tube every calf with at least 3 litres of colostrum as soon as they are born.

I bunch new-born calves into bunches of four and five in the bulk calving pen using sheep hurdles. They are trained to a teat feeder. Once they are drinking independently they are batched in groups of 10.

The calf sheds are very important spaces on farms. The stocking density is the biggest concern for me and I don't overstock pens. Each calf gets 1.7m² of space.(18ft²). Pens were designed to hold 10 calves

Bull calves are housed separately. They are fed whole milk and are sold off the farm as soon as possible. Selling the bulls reduces the peak calf numbers on the farm. Heifer calves are housed in a converted beef shed.

The heifers are fed once-a-day from four weeks of age. I have done that for the last four years and it is working great. It is important to always have fresh water, straw and concentrate available to ensure a successful calf rearing.



Seamus' tips to reduce the calf rearing workload

1. Bulk calving pen.
2. Colostrum 3+ litres ASAP.
3. Correct stocking density 1.7m²/calf.
4. Clean water.
5. Sell bull calves early to reduce peak calf numbers.
6. Once-a-day milk replacer after 4 weeks of age.
7. Simple milk cart to move milk.
8. Dry bedding and clean water checked daily.
9. Easy calving bulls.
10. Correct cow body condition scores early.
11. Get calves settled into their pens.
12. Remove sick calves from the group to reduce infection pressure.

"I learnt the hard way about the importance of Colostrum"

Milk Once-A-Day in February

With more cows calving in February each year, some farmers have decided to milk once-a-day for the first month of calving.

This is a temporary measure to help reduce workload at a stressful and busy time of year. Thomas Loughrey from Co. Westmeath has made the change to milk once-a-day in February and it has had positive effects on his workday in calving season.

I started milking once a day in February after the topic being mentioned at my discussion group. I had a fear about my SCC or incidences of mastitis. There has been no effect on milk quality or annual milk yield since I went once-a-day milking in February.

It had a hugely positive effect on the structure of the working day. Saving two hours a day for 28 days is significant. It's a full week's work saved with just one practice.

POSITIVES OF ONCE-A-DAY MILKING IN FEBRUARY



- ▶ Reduce the dependence on family help on the farm. Often times, family help is overlooked or undervalued.
- ▶ Temporary once-a-day milking at the start of lactation reduces 1.5-3hrs work per day. These hours are of particular importance in the spring time.
- ▶ More time is available to spend with calves, ensuring a more successful calf rearing.
- ▶ Cows do not exhibit as long or as deep a negative energy balance, helping them cycle and get back in calf.
- ▶ This practice has encouraged many farmers to tackle an underlying SCC problem.

THOMAS'S WORKING DAY IN FEBRUARY



6.30am	Check calving shed. Feed new born calves with stored colostrum.
7.30am	Start milking. Thomas milks all his colostrum and antibiotic cows last.
9am	Cows are let out to grass for 3-5 hours.
9.30am	Feed calves.
11am-3pm	Feeding silage, servicing the calf shed (bedding concentrate etc.) cleaning cubicles, general farm jobs.
3.30pm	Cows back in from grass.
4.00pm	Feed calves with the milk from morning heated up.
5-11pm	Checking calving sheds and feeding new born calves.

"For busy farms it really cuts the work load at a busy time of year. Try it for 1 or 2 weeks, give it a go"



Invest in grazing infrastructure to get cows grazing

Eugene and Brian McGinnity are milking 90 cows in Knockatallon, Co. Monaghan. Their land is heavy but this does not deter them from continually investing in grazing infrastructure, enabling them to achieve a long grazing season.

Getting the milking batch of cows out to grass early in spring is a huge priority for us. We aim to get the milking group out to grass every day for at least three hours. This year we only had the cows in for six days from 1st February to 5th April. To achieve this we use a number of techniques:

1. On-off grazing for three hours helps get grass in the diet with limited damage to fields. We often do this twice in one day. Letting the cows to grass after the morning and 3pm afternoon milking if ground conditions are difficult.

2. Spur roadways to get to the back of paddocks.
3. Back fencing areas which are already grazed.
4. Multiple entrance points to paddocks.
5. Water troughs located in the centre of paddocks for strip grazing.
6. Continued investment in land drainage.

When cows are at grass in spring, along with the yield increase, cows' udders are cleaner. This would reduce the milking time by 10 minutes.

Time foddering is reduced when the cows are out at grass.

The cubicles only have to be scraped and bedded once a day which would save me 25 minutes each day when the cows are out.

Grass measuring is done every week on our farm. It allows us to make the correct grassland management decisions. It reduces time spent topping on our farm. Our paddocks are nearly never topped. Heavy covers are baled out.



"I want to set up my farm with roadways to utilise as much grass as possible"



Other grazing tips

1. Have lots of reels and posts in a fixed location in the yard.
2. Cows have the best appetite after milking, so offer grass first and silage after if needed.
3. When on/off grazing for three hours there is no need for water.
4. Tunnels or underpasses are a long term investment leaving the herding of cows much easier. It also reduces the need for the second person.
5. Grass measuring reduces the amount of time topping and improves grass utilisation.



Day-to-day advantages of good roadways

1. Cows will travel faster to and from the milking parlour which could save 5-15 minutes per milking walking in cows.
2. Cleaner roadways. The smooth surface will not irritate cows thereby reducing the cow dungs on the road way. This in turn will mean cows will be cleaner, thus improving SCC.
3. Fewer lame cows. Maintained and smooth roadways will reduce problems with hoof health.

Future Herd size	Road width
100 or less	4M
150	4.5M
200	5M
300	6M

When building new roadways plan for the future herd size.

What does one week's grazing mean on your farm

- ▶ **Silage saved:** 100 cows housed for a week will eat 9T/DM of silage which is 44 bales.
- ▶ **Slurry saved:** 100 cows housed fulltime produce 33M³ of slurry or 7,250 gallons of slurry each week.
- ▶ **Concentrate saved:** Extra concentrate will have to be fed to maintain milk yield.
- ▶ **Silage diets** can see a reduction of milk protein of up to 0.15%.
- ▶ **Improved health:** cows grazing have lower SCC and reduced lameness.

"I find it a lot quicker to set up a 12hr fence than to put in 5 bales"





"I don't want to be running with a bottle in one hand and an AI straw in another"

Remove late calving cows from the system

Late calving cows which drag on the calving season add a lot of work into a system along with the reduced profitability of that animal. Patrick O'Neill, Edgeworthstown, Co Longford is one farmer who tightened up his calving season and is reaping production and labour saving benefits.

Six years ago we would have been milking 50 cows starting calving on 1st February and finishing sometime in June.

Now we have expanded to 100 cows and I have only bred for 10 weeks this year. Having a defined breeding and calving season allows me to focus on the job in hand. I start calving on 1st February and I am now finished on 15th April. I use high EBI Holstein Friesian AI for four weeks and then high DBI beef AI. I generally have 8% to 10% of cows empty outside this period. I sell my beef calves at two weeks of age.

This compact breeding season means I have 90% of my calves reared and off milk before I start breeding. I believe having a high six-week calving rate saves many hours work on my farm through improved organisation and more uniform batches of stock. These late calves are more work than they are worth.

"90%
of my calves are reared
and off milk before I
start breeding"



Observation:

I am only looking for heats for 10 weeks instead of 16 weeks or 20 weeks. This saves a lot of time and runs to the field checking cows and avoids the need for expensive heat detection aids.

Breeding:

It is as quick to draft out four cows for AI as two cows, it's only for 10 weeks.

Calving:

I currently have an 85% six-week calving rate which is just over two calves per day on my farm. The only busy period is between weeks three and four of calving. I find once everything is organised I am still done farming for the day at 6pm only to check the calving shed.

Calves:

The calves are of similar ages and are easier to group for feeding, weaning or selling.

The two week break before breeding season:

I have all the calving done two weeks before I start the breeding season. This allows me to refocus and do an excellent job on heat detection to achieve a high submission rate.

The biggest thing that has changed on this farm is my understanding of the importance of submission rate and the continual improvement of fertility.

"Improving my six week calving rate close to 90% organised my farm"

How Patrick removed late calving cows out of his system

1. Make sure heifers calve in at the right time (Feb).
2. Have a breeding end date and stick to it (13th July).
3. Removing late calving and empty cows out of the herd early.
4. Focus on the cows already calving in February & March to avoid slippage.
5. The use of tail paint to aid heat detection.
6. Intervene early with any cow not cycling before breeding start date, O-A-D milking or vet examination.
7. Presenting any animal who had any tail paint removed for AI, this achieves a high six-week submission rate.
8. Select a team of bulls with a fertility sub-index of +€100.





"A definite breeding end date is crucial. I stop breeding on the 13th of July"

Have a fixed breeding season

Breeding season is the most important season of the year to ensure herd performance is maintained next year.

The targets are to get a 90% six week in-calf rate with a low empty rate below 10%. Gerry and Mairead Fallon in Co. Westmeath are achieving these targets with a number of simple ideas.

We have expanded rapidly over the last number of years milking 300 cows presently on two farms. Heat observation is kept simple. Tail paint is applied (9th April) three weeks before breeding start date (1st May). That tail paint is checked on 30th April. Any cows with the tail paint remaining have not come in heat. These cows are put on once-a-day morning milking to help cows build condition, thus increasing chances of cow cycling. These cows are given the same concentrate intake as the main herd and are checked for metritis. On 30th April, new tail paint is applied. Every milking, the tail paint is checked and any cows with any small amount of tail paint removed are presented for AI. This is necessary to achieve a high submission rate, achieving a high six-week in calf rate.



Once-a-Day AI

I take a note of cows to present for AI in the evening and morning. I only draft cows for AI at the morning milking which means only one milking is disturbed with drafting. Having an easy way to draft cows is essential when there are 3 to 4 cows to AI in one row of cows.

Moving back to an AI technician

In the past I would have done all the AI myself. As the herd expanded and at peak inseminating 15 cows/day. I could easily spend 1.5 hours a day inseminating for the first round of AI. I decided this year to move back to an AI technician. I suppose it's another way of outsourcing labour. I have the cows drafted and left in the collecting yard ready for service. The AI technician comes at 9am to 11am. I can save one hour a day for 60 days.

Funny enough, this is the first year back with the technician and I have got the lowest empty rate yet at 8%.

Use the Dairy Beef Index (DBI) to select beef AI bulls

The DBI is a breeding tool to promote high quality beef cattle bred from the dairy herd with minimal consequences on the calving difficulty or gestation for dairy cow. The DBI ranks beef bulls, for use in the dairy herd, according to their genetic merit for calving and carcass performance traits. Expressed in euros, each €1 increase in DBI can be interpreted as a €1 expected increase in profit for that bull's progeny.

When selecting beef AI sires using the DBI, it is important to consider what components are contributing to an individual sire's DBI value when selecting suitable bulls for dairy heifers and dairy cows.

Picking the correct bulls for your heifers

Getting your heifers calved trouble free and in the parlour with no problems has a big impact on those animal reaching their genetic potential and staying in the herd for many years. The key to this is easy calving bulls on heifers with a calving difficulty under 1.8%.

Gerry's Breeding Plan	
9th April	Tail paint applied to all cows.
30th April	Tail paint checked. Cows with tail paint remaining are put on once-a-day milk and checked for metritis.
1st May	Breeding start date. High EBI Bulls.
22nd May	Target 90% Submission Rate.
1st June	Switch to high DBI Beef AI
13th July	Breeding stop date.



"Find and treat the cow not cycling fast to reduce your empty rate"

"A 90% submission rate in 3 weeks is key to a compact cycling season"

Matching milking units to herd size

The milking process can account for 25% to 50% of the hours worked on a farm depending on facilities.

This can change dramatically when herds expand. Changing the milking facilities on your farm may be a once in a generation decision.

Selecting the most cost effective, labour effective and simply operated system is critical. Patrick Traynor from Monaghan and Nicholas Cooney from Louth are two suppliers who have expanded and decided to upgrade and improve their milking facilities to reduce the hours worked on the farm and improve their quality of life.



“Changing milking from 17 rows to seven rows reduced milking time by 60%”



Patrick Traynor 20-unit parlour

I was milking in an eight-unit parlour before I upgraded; it was ideal for 60 to 70 cows. As with a lot of farms over the past 10 years opportunities to expand came around. By 2017 herd

size doubled to 125 cows. At this stage milking was taking me six hours a day. It did not matter how early you started, everything was late because of the milking process. It is daunting facing into 17 rows of cows.

I knew I had to do something with regards to the milking facilities. I discussed it with my discussion group and Teagasc advisor. The option was taken to move to a greenfield site. It didn't make sense to extend the old parlour to 16 units as cow flow in that place wasn't going to be improved, drafting was difficult, and the feed passage was being used as a collecting yard which isn't great.

I built a 20-unit parlour which is seven rows for the 130 cows at present. It has been designed around cow flow and space. The design was simple:

- ▶ Good entry to the collecting yard which is fit to hold 160 cows.
- ▶ Bright entrance to the parlour with firm footing.
- ▶ Efficient row time (eight minutes to nine minutes) with the use of cluster removers.
- ▶ Large row exit space in front of the parlour to ensure fast exit from the row.
- ▶ Simple three way drafting and return to the field with a speedy wash up with the auto wash.
- ▶ Milking at the minute takes 1hr 15mins in the morning and 1hr 5mins in the evening.

To build a new parlour takes a lot of time and financial planning. I am very pleased with the outcome, milking time is reduced from six hours to 2hr 20mins a day. That allows me to do every other job better around the farm and be finished farming at 6pm.

Efficient milking facility for different herd sizes

Herd size	<100	160	280	350	500+
Herringbone units	14	20	24	30-36*	-
Rotary parlour units	-	-	44	50	50+
Robots	2	3	5	6	9+
* 2-person operated herringbone parlour			Plan Milk Facility with future herd size in mind. Speak to your local Teagasc advisor for financial planning and advice.		
Rotary parlours set to milk 280-320 cow/hr at peak					
1 robot to milk 65 cows					



Nicholas Cooney New 44-unit rotary

My herd has expanded from 70 cows ten years ago to 440 cows in-calf for 2020. The

old parlour had lived its life. Starting as a 10 unit expanded to a 14 and then to a 20 unit with no alterations to collecting yard and cow flow. At maximum there was 280 cows milked in it, which was 14 rows. It was taking over 3.5 hours to milk in the morning and 3 hours in the evening because of the poor cow flow.

With the option to expand to over 400 cows I knew something had to be done with the milking facilities. I had to move to a greenfield site to improve cow flow and collecting yard space. In essence, I had three options.

Robots, 20+ unit parlour or a rotary parlour

I looked at robots, but they were not for me. The initial set-up cost to milk 300 cows would require five robots. This limited the possibility of milking more cows as an additional robot would need to be purchased. I had concerns over the presumed labour saving in an outdoor grazing system. I actually think I'd always be on call with a robot.

I considered the Herringbone parlour - either a 26-unit or a 40-unit parlour. It would have been better than I had before, but the

26-unit wouldn't speed up milking time to justify the investment. The 40-unit would require two operators which isn't always available and wouldn't reduce the hours worked on the farm.

I chose to build a 44-unit rotary parlour because of the labour efficiency. One operator can milk 270 cows to 300 cows per hour. Current milking times for 420 cows are 1hr 45mins in the morning and 1hr 30mins in the evening. There is an additional 30 minutes per milking in the spring to milk the colostrum and antibiotic batch. When the rotary was installed in 2018, I never expected my herd size to exceed 400 cows.

The rotary has allowed me to capitalise on opportunities to milk more cows and expand further. The rotary is a big investment and requires a lot of financial planning, but it was the best decision I made on my farm to reduce labour requirements and improve my quality of life.

"Once a herd crosses the 250 cows or 10 rows of cows, the rotary option needs to be explored when milking facilities are being upgraded"



Treat the contractor as a labour unit

Mortimer O'Sullivan is milking 115 cows in Dunshaughlin Co Meath. He has altered his approach towards the use of contractors since his herd has expanded. Mortimer finds it is best to spend time on excellent grassland management and good cow and calf health rather than on tractors.

I treat my contractor like my part time labour unit on my farm now. In days gone past I did all our own slurry with a 1,600 gallon tanker. We did our own fertiliser, our own silage, muck spreading and reseeding with family help. Things have changed a lot since that.

Slurry

I now get the contractor with the umbilical piping system in January emptying about 20% of the total slurry. I often spent three or four days covering the first and second cut silage ground. A phone call and a contractor in the yard for six hours gets more slurry spread.

At the minute, I only handle 10% of the slurry on a few paddocks.

Fertiliser

I have a farm map which is great to show contractors which paddocks to spread. The first round of urea, along with the 1st and 2nd cut fertiliser applications is done with a phone call. In the past, spreading the silage ground took me two days.

The first cut silage application was in the middle of calving which is busy enough and the second cut application is in the middle of breeding season, the most important season.

Building up a good contractor relationship is critical for a successful farm.

1 Notice

For jobs such as muck spreading I give the contractor plenty of notice. This means he can fit the job in when it suits him.

2 Farm maps

Simple farm maps will help give clear instructions of what is to be done and where it is to be done.

3 Consistency of work

I like to have a contractor in the yard every four weeks to six weeks so I can keep them informed of my next plans, reseeding, hedge cutting, baling etc.

Benefits of using contractors

- ▶ Fully tax deductible expense.
- ▶ Increased capacity ensures good value for money.
- ▶ Can be sourced at busy times of year.
- ▶ Avoids need for investment in expensive machinery.
- ▶ Allows time to be spent on profitable activities. Such as grassland management and calf health.
- ▶ The farming jobs can go on even if you aren't on the farm.

In a busy calving season get the contractor to feed out the silage in the months of February and March when you are busy calving cows. It could save 5-8 hours a week.



Have a good structure for time off

Having a reliable relief milker is a key part of any dairy farm, especially in one person operations to get quality time off. John Malone from Co. Westmeath discusses his current relief worker arrangements.



How to get the most out of your relief milker

- ▶ A Farm map in the dairy. This shows where the cows are grazing and where they will be grazing.
- ▶ Simple instructions
 - Any cow with red Dump
 - Any cow with yellow keep for calves
 - Any cow with blue milk once daily AM
- ▶ Provide as much notice as possible for weekend work and for weeks when you are on holidays.
- ▶ Be flexible with the milking start times. If it suits them to start the afternoon milking at 3pm let them.
- ▶ Be consistent with work. Offer at least 1 milking a month for them to remember the routine.

In the past, I relied on family members to carry out relief milking and extra farm work. Currently I get a relief milker in two evenings a week on Wednesday and Thursday evenings. I get the same person on weekends or when I go away on holidays.

I find having two evenings a week that I don't have to milk is great. It allows me to finish other farm jobs such as slurry or sowing fertiliser. When I have the relief milker I don't have to stop a job to go milking. I often organise jobs such as fertiliser, washing, shed repairs etc. on the days when I have the relief milker in.

Also, I am able to enjoy hobbies and go away with my family and plan family trips away mid-week. Having a consistent relief milker gives me the confidence that the job will be done correctly every time.

Options for relief milkers

1. You might have a niece/or nephew who is looking to make money for college. Offer to train them up for weekend work.
2. Ask another local farmer to do two milkings a week. Inform them the job is flexible and can be done anytime between 2pm to 6pm before or after school pick ups.
3. Shared milkers. It's useful if a couple of farmers can come together in an area and share a relief milker.
4. Always be on the lookout for relief staff. You never know who could be interested.
5. Be open to the idea of training someone with no dairy experience. It is better than someone with bad experience and habits.



**"All is on the computer
for the Bord Bia audit
and any inspection"**

Keep on top of compliance

Paperwork is often the task left to last and completed around the kitchen table at night. Darren McKenna from Emyvale, Co. Monaghan has a different approach using simple apps and behaviours to get paperwork done on time and quickly.

A comfortable, quiet and organised office is essential to keep on top of paperwork. Where you do your paperwork needs to be a nice place to work. This will encourage you to sit down more often to complete the job. Office work is better done in the morning when you are alert. You will be more productive. The office is the place you work on the business rather than in the business.

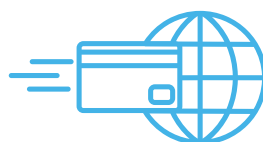
When I was upgrading the parlour, I built a small office for myself on the farm. I now complete all paperwork tasks on the farm in the morning.

I use a management computer package to complete all animal paper work. Every Monday morning, I do all my calf registrations for the past seven days. This means I get back the cards weekly, and I can sell any calf after 14 days of age.

The computer app is great for a private sale of stock. I can have the permit for a farm to farm sale done in two minutes. Once the calves leave the farm all the permits are done.

The medicine diary is on the app and is simple to use. When I come back from the vet's, I enter the VPA number onto the system. It is simple to put in any medicine usage as it automatically calculates the withdrawal end date.

Using a farm management software package makes a Bord Bia audit stress free. The animal movement and medicine purchase and usage are up to date



Online banking is another great tool. It means less bank statements and makes it simple to pay agri merchants or staff with direct debits etc.

I use the Pasturebase app most often. A grass walk takes me at most one hour to complete. I can make the correct grassland decisions for the week, there and then, which is essential to manage grass correctly.



- ▶ Grassland Management
- ▶ Online Banking
- ▶ Medicine Recording
- ▶ Herd Register
- ▶ Calf Registration
- ▶ Animal Movements
- ▶ Field Measuring
- ▶ Fertiliser Recording and Planning
- ▶ ICBF Access
- ▶ Animal Data Access
- ▶ Online Weather Information
- ▶ Heal Detection Aids
- ▶ Farm Cash Flow Management



Labour improvement calendar

January

1. Prepare for calving season
2. Make the switch to 3.30pm milking

February

1. Simplify calving and calf management
2. Milk Once-A-Day in February

March

1. Get cows grazing
2. Make use of your contractors. To spread fertiliser, slurry and feeding out silage

April

1. Have a fixed breeding season (Breeding start and end date)
2. Look for someone for relief milking for two milkings a week

May

1. Focus on breeding and heat detection. Target a 90% submission rate in 3 weeks
2. Observe cow flow, find ways to improve cows speed around the milking parlour

June

1. Take your holiday
2. Download and use a farm management APP

July

1. Invest in roadways. Resurface and extend cow tracks to help on-off grazing in the shoulders
2. Stop breeding on the 13th July

August

1. Look tightly at your milking routine to discover time wastes in your routine
2. Develop Standard Operating Procedure (SOP) for your milking parlour

September

1. Tidy your workshop, keep it organised
2. Invest in farm maps, white boards and year calendars to help organise staff and family

October

1. Remove late calving and empty cows from the herd early
2. Prepare for winter housing. Shed maintenance and animal dosing

November

1. Keep cows at grass. Use spur roadways multiple entrances
2. BCS the herd. Dry thin animals of early and feed accordingly for a more successful calving season

December

1. Feed silage every 2nd day and push in on the day in-between
2. Plan the key dates in the year ahead