



ATTENTION TO DETAIL DRIVES ROBOT PERFORMANCE

Close attention to the diet and ensuring facilities allow cows to milk to their potential have been the foundations of a successful robotic milking system in Cheshire.



Rob Yarwood

Since the first milking robots were installed at Handfield Farm near Congleton, Richard and Rob Yarwood have overseen the expansion of their herd and the development of a system focussing on milk from forage.

In 2008 they made the decision to move into robotic milking with two Fullwood Merlin units for 140 cows. A third robot was added in August 2012 as cows increased to 190, with a fourth added in May 2021 as the herd grew to 210 cows.

BELOW AVERAGE FEED COSTS

As their experience with robots grew, so they were more confident to increase the number of units. At all times the aim was to match the facilities to the cows, so they could express their potential. The herd is now producing 10350 litres/cow from the all-year-round calving herd, with feed costs around 2ppl less than the Kite average for high yielding robot herds.

Milk from forage is a key performance indicator and is currently 4650 litres per cow. Cows graze during the summer and are fed a diet based on grass silage and wholecrop in the winter. Five cuts of grass silage are made, and they aim to produce at least 900tDM per year, growing medium term silage leys with a high proportion of red clover to improve

protein levels and reduce nitrogen inputs. In addition they target 35-40tDM of wholecrop.

The cows are always housed by night and are housed full time from early November until early April. When housed they are fed a diet of grass silage and wholecrop, Trafford Gold, Maxammon treated wheat and prairie meal down the feed fence. The ration is targeted to produce M+20 litres and make the cows eager to visit the robots.

Maxammon treated wheat is a way to increase starch in the diet in a rumen friendly way and at 13-14% protein it has helped control total protein costs.

BESPOKE CONCENTRATES

Two Massey Feeds bespoke formulated concentrates are available through the robots - a 20% and an 18% protein feed. In addition an 18% Massey Feeds nut is available through out-of-parlour feeders. High yielders are fed through the robots and out-of-parlour feeders. Low yielders only have access to the robots to encourage regular visits.

All the cows are in one milking group and are bedded on sawdust and mat bedded cubicles. Cows have adequate trough space and the opportunity to lie down when they want and the unit is never overstocked.

They are looking to upgrade an older cubicle building as the cubicles are smaller than in the newer building and cows have a clear preference for the larger cubicles. They will make use of some redundant space to make the beds bigger and also raise the roof height to improve ventilation. By so doing they can increase cow comfort and welfare, reduce stress and hopefully see a response in the bulk tank.

In the summer the whole herd grazes on a set daily cycle. Between midnight and 8.00am, cows have access to a block of second-best grazing, provided they have been milked within the last two hours.

Any cows not milked are held back. At anytime cows can come back to be milked.

Between 8.00am and 5.00pm, cows have access to the best quality grazing, with the same restriction of interval since milking being applied. Cows can drift back to milking when they want, but all cows are brought back in at 5.00pm and held back until midnight again. When held back they are buffer fed.

GRAZING ANALYSIS

The buffer feed is fine-tuned to reflect grass quantity and quality and they take regular grass samples for analysis. In the early spring when grass productivity is at its highest, the buffer will be grass silage and haylage. As grass drops back some Maxammon wheat is added to the buffer.

At turnout, concentrates will be changed to a bespoke 14% protein product with just one product fed. This will change to a 16% compound as the protein in grass declines. The aim is to make the best use of the protein in grass and all summer compounds contain Novatan to improve protein utilisation in the rumen.

Throughout the year the goal is to make best use of high quality, high digestibility forages. Digestibility is essential to keep cows active and to maintain robot visit numbers.

The system they have developed works extremely well and cows average 16kg/day of forage dry matter intakes throughout the year. The combination of closely monitored rations and matching cow numbers to available facilities has resulted in an efficient and robust system.



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It's ironic that with cost pressures coming onto all sectors of agriculture with the 3 F's - Feed, Fuel, and Fertilizer - we are now seeing milk prices start to rise just as milk production comes under pressure.

Arla are leading the way with member prices holding for February at January levels, with a standard litre at 37.58ppl with those maximising milk quality achieving at least another 2ppl. Sadly the rest are lagging behind with the supermarket suppliers under pressure now as the retailers say their prices represent an average cost of production. Will they be saying that when they have no milk?

With the generally warmer/mild weather (expect snow in April!) an early turnout is on the cards. This will be welcomed on many farms as grazed grass is still the cheapest feed for dairy cows. To make the most of grass it will need careful supplementation. Our newly formulated summer 2022 dairy diets will be available next month.

One of the major factors effecting the farming community in the UK since November 2021 is that all captive birds, either commercial poultry or pets, have to be kept indoors to stop the spread of Avian influenza (Bird Flu). Currently it is a very high-risk, no sites are immune and we are all following critical biosecurity protocols on our customers' farms. Even on dairy farms we are seeing increased levels of dysentery leading to milk loss. This is due to wild birds landing on the farm and contaminating the feed passage.

With the additional pressures on farm businesses, one cost that will come under pressure for us all as long-term fixed contracts expire is electricity. Farmers who need to renew their electricity contracts this year are facing price increases of up to 60% due to the ongoing energy crisis. This is a national problem for us all, and feed mills are no exception.

Finally, check out our new 2022 quality sheep feeds range, which offer high specification formulations to maximise ewe and lamb production.



Phil Stirk
Sales Director
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With nitrogen currently priced at £650/t, it seems many grassland farmers are holding back from buying their fertiliser. Figures suggest that orders are down on usual years. But this is undoubtedly a false economy.

I would urge anyone who hasn't ordered their fertiliser to get on and do it quickly because irrespective of price, good quality forage is absolutely crucial for cost effective milk production. And with the issues surrounding supply and getting deliveries, the sooner nitrogen is on farm the better.

While accepting the price of fertiliser has doubled, grazed grass will still be the cheapest feed for dairy cows. Calculations put the cost this year at around £45/tDM, compared to £23t/DM last year. By comparison, grass silage from a typical three cut system works out at £128/tDM compared to £87/tDM last year.

To exploit the better milk prices we are seeing, you need to produce as much as you can from your cheapest feed – grass! Key to production from grazing is keeping cows on adequate covers of high-quality grass and encouraging rapid regrowth so cows are on grass at the most digestible three leaf stage. You will only achieve this and maximise yield from grazing if you keep applying fertiliser.

Also ask yourself the question – what will you feed your cows on if you don't fertilise grassland correctly? In simple terms, if you don't grow it you will have to buy it, and all the predictions are that in current global markets ingredient prices are likely to remain strong. So focussing on what you are in control of and producing your own feeds should be a high business priority.

And don't forget the rumen is what drives production, and maintaining a healthy and productive rumen is key. So to make the most of the total diet you need to be feeding high quality digestible forages.



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MAKING THE MOST OF FERTILISER

Grass will produce, on average, 15kgDM per kilo of nitrogen applied which is an excellent return, but it is vital to use fertiliser efficiently. So here are a few things to consider

Get soil analysed knowing the soil status will allow you to find tune applications. Sulphur and pH levels are essential for efficient uptake of fertiliser.

Treat fields as individuals if some fields typically produce less than others, consider reducing fertiliser applications on these fields.

Make the most of slurry 67,000 litres/ha of a 6% dry matter slurry with a typical nitrogen content will apply 60kgN/ha which is half the requirement for first cut. Get slurry analysed so you know what you have got, and then account for it in your plans.

Get your spreader calibrated like all machines, a fertiliser spreader can become inaccurate with time and use. So getting it calibrated will make sure the fertiliser is going where you want it.

Use temporary fencing to control grazing measure growth regularly so you know what is ahead of the cows and allow you to allocate specific amounts. Temporary electric fences will let you split paddocks. Back fences and temporary tracks will eliminate back grazing and ensure efficient regrowth.

Question multicut farmers have been encouraged to move to multicut systems for grass silage with the promise of higher yields and better quality. Experience is that this is not always the case. A traditional three cut system might be more cost effective. Take time to review how well multicut has worked for you and whether to continue.

Reduce waste every kilo of forage dry matter wasted, whether grazed or conserved, has to be replaced with purchased feed. Typical losses in silage making are around 15% so planning to reduce waste will help get more from forage.

Talk to your feed specialist about how we can help you make the most of your grass this season.



Richard Ford
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No silage clamp is full of a consistent feed, meaning that supplementation has to be regularly assessed for best performance. The key to precise and cost-effective supplementation is getting clamps analysed regularly, so rations are based on the silage actually being fed.

Even a clamp containing a single cut will be made up of different proportions of different swards as you work through the clamp. There will potentially be a mix of specific cutting leys, general purpose leys and permanent pasture all of which will be at various stages of maturity. They are likely to be harvested over at least two days, risking being affected by the weather and moved several times which will affect feed value as you work through the clamp

The variation is even greater in clamps containing multiple cuts as the sources of variation are multiplied. Yet the average sampling interval for grass silages is commonly around two months, which is far too long. This year, in particular, we have seen big variations in silage quality as clamps have been emptied.

Taking a representative sample, comprising handfuls from different points across the face, should only take a few minutes, and a traditional NIRS analysis will be back on farm within 24 hours giving all the information needed for your feed specialist to fine-tune the ration.

A customer of mine, Will Bunting who farms near Ashbourne has moved to analysing grass silage every two weeks.

His 200 all year-round calving Holsteins average 10000 litres at 4.3% fat and 3.25% protein on an Arla Tesco contract.

All the grassland is permanent pasture and he takes three cuts of grass silage every year. First cut, which is usually 1600 tonnes, is clamped indoors in a building erected two years ago.

In the winter cows are cubicle housed and fed a TMR twice a day comprising 9kgDM grass silage, 3kgDM wholecrop and a blend. The TMR is formulated to M+22 litres with a 16% compound fed through the parlour to a maximum of 8kg/day.

ANALYSIS SHOWS VARIATIONS

Since November the first cut clamp has been analysed every two weeks (see table) with significant variations seen. This is despite the clamp being entirely first cut from very similar swards.

Looking at the clamp, we could see bands of different material which Will tries to even out through his feed out management. He takes the silage out in thin wafers working in vertical blocks to try and feed a more consistent forage and get across the 60-foot clamp in two days. We are looking at as much as 5% difference in dry matter which can have a big impact while the 2.5MJ difference in ME is equivalent to half a litre which with 180 cows in milk is 90 litres a day.

In addition to the headline figures, the factors affecting rumen health varied as well. One of the keys to keeping cows milking well is to ensure a balanced rumen and to minimise disruptions so we monitor changes carefully.

When we rationed the cows based on the analysis taken in October we formulated a 22.5% protein blend which we included at 6.5kg/cow. However, when we saw the analysis in mid-November we were able to reduce this to 20.5% protein as silage protein had increased. At the same time, we increased fermentable carbohydrates to better balance the rumen.

Before the changes milk ureas had been running at 280-290mg/kg but have since been around 250mg/kg. By improving rumen balance and increasing the rapidly fermentable carbohydrates, we have improved milk quality. Fats are averaging 4.3% and protein 3.3% which is helping maintain milk prices.

AMENDING FRESHWEIGHT

Since then we have left the blend the same but after each analysis we review the diet and adjust the wagon sheet to accommodate changing silage dry matter to ensure we are feeding enough freshweight to provide sufficient dry matter.

When we had the really poor analysis in late November, we didn't rush to change anything but monitored performance closely suspecting, as proved the case, that it was just a poor patch as indicated by fermentation characteristics. But the fact we knew about it meant we were in control. Had this been the only analysis, we could have ended up with an unnecessarily complicated and expensive diet to balance the analysis, potentially running into health issues such as acidosis. Regular analysis avoided this.

Without the more frequent analysis we might have been feeding more protein than necessary, pushing up costs. Having frequent analysis has meant we can fine-tune the diet to keep cows performing well, while making the best use of the forages to support margins. Reducing protein in particular has saved on costs.

Set against the potential benefits of fine-tuning the diet to maintain or improve performance and reduce feed costs, the cost and time of taking samples more regularly is negligible.

Talk to your feed specialist about how regular silage analysis.

	6 Oct	10 Nov	30 Nov	13 Dec	23 Dec	Difference min to max
DM (%)	30.3	27.3	27.9	32.6	29.1	5.3
CP (%DM)	14.8	17.2	17.4	15.0	17.2	2.6
ME (MJ/kgDM)	11.7	11.4	9.3	11.2	11.6	2.4
NDF (%DM)	46.3	46.7	50.6	46.9	45.1	5.5

RAW MATERIALS UPDATE

As we go into the second half of the winter, we are seeing very little change in the raw material markets.

Cereals have settled after their rally before Christmas, but grain farmers are not sellers. They are keeping grain supply tight and the price firm with barley being very strong at only a £2-5 price differential to wheat.

Mid proteins such as distillers and sunflower seem to be seeing value as rape is in short supply and very expensive, landing in the mill at £338/t. Soya has rallied on the back of dry weather conditions in Argentina. Rains are expected, but the next six weeks will be critical for the growing season, and setting the value for proteins this summer.

At the moment sugar beet is expensive at £260/t with very little about. Wheatfeed has come below £200/t for May-Sept and looks the best value against palm kernel and soya hulls. As the summer season progresses, soya hulls should become more available.

Smaller volume products are also subject to significant price increases. Fats, minerals and amino acids are just some of the products affected while the fertilizer supply and price situation is having a massive effect on feed grade urea availability and price.



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FEEDING FOR A HEALTHY LAMB CROP

With lambing about to kick in on many farms, it is important you are feeding both ewes and lambs well to ensure ewes produce strong healthy lambs which then grow quickly. Whether you are feeding conserved forages or grazing, correct supplementation is the key.

Our Elite Ewe Extra nuts and rolls are our highest energy feeds, formulated for healthy ewes and lambs, ensuring plenty of good quality milk with maximum colostrum production for lamb immunity.

They have optimum cereal inclusion to provide a balance of starch and sugars and contain a combination of high quality proteins with high levels of DUP.

Supplying high quality trace elements is essential to complement forages. Cobalt and Vitamin B12 are included to support energy metabolism to help avoid pregnancy toxemia, while a selenium yeast helps ensure a healthy udder, a good colostrum supply and lambs with good immunity and plenty of get up and go.

Bioplex zinc aids healthy feet and supports good lamb growth rates. Vitamin E is included as an antioxidant.

DRIVING LAMB GROWTH

Lambs benefit from creep feeding to maintain high growth rates. Our lamb creep products are specially formulated for young lambs, encouraging early intakes of dry feeds to encourage earlier weaning.

We include Bio-Mos to help boost the lamb's immune system and reduce the risk of nutritional disorders. Deccox can be added with a vet prescription to help prevent Coccidiosis.

Our lamb creep can be used with our Hi Gain Lamb pellets as a two-part feeding regime from lambing through to slaughter.

Talk to your feed specialist about the optimum feeds for your ewes and lambs.



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