



Multi-cut silage for organic milk:

Rocket fuel

With strong concentrate prices squeezing margins for dairy farmers, it's now as important as ever to produce the most nutritious and palatable silage, and thus reduce the need to shell out hard-earned cash on bought-in feed. Steynton Farm is looking to make the most of its grass, taking a minimum of four cuts to clamp the best quality fodder possible. Mervyn Bailey reports



Steve Davies (above) runs a 170hp JCB Fastrac 3185 and 36.5m³ capacity Pöttinger Jumbo 6000 to chop and haul Steynton Farm's silage. Fuel use is 350 litres for a 48.5ha/750t cut.

Steynton Farm has always been relatively self-sufficient on the machinery front, which has allowed the business to cut its silage at the optimum time to achieve the best quality fodder. The 170-cow organic dairy herd has an average annual yield of 7,000 litres, using a modest 1.5t of concentrates per animal to top up the grass-based diet. With bought-in feed for the organic herd costing upwards of £400/t, getting the silage-making process wrong would be a costly mistake. Based just outside Milford Haven, Pembrokeshire, the 161ha farm converted to organic production in 1999, with Steve Davies and

his wife Joanne taking over the family business in 2008. Since then they have brought in a number of changes to streamline the farming enterprise. One of the most significant developments was the investment in a 16/32 Dairymaster milking parlour and resulting alterations made to the housing for the farm's dairy herd.

"We were spending up to seven hours milking in the old Alfa Laval 12/6 unit parlour, but we can now do the job in just three hours," explains Mr Davies. "When our herd manager, Paul Canning, starts milking, I can scrape out the passages and yards as well



as feed the calves, resulting in both of us finishing up all routine tasks by 9am and meaning we can get on with other work.” A key part of this additional workload is the 50ha of silage that’s cut every six or so weeks. Up until 2008 the farm ran its own 1999 Claas Jaguar 840 self-propelled, along with a couple of Claas tractors under three years old, and was clamping two or three heavy cuts of grass as well as undertaking some contract work. It was a system that worked well enough when additional labour could be called on. But with the passing of

Mr Davies’s father and the difficulty of getting hold of tractor drivers for short periods of work, something had to change.

Back then cow numbers totalled 120, and the farm grew around 16ha for whole-crop and 16ha of crimped wheat. Wanting to increase the dairy herd to 170 cows, the decision was made to put everything down to grass and move to shorter, higher quality silage and give up the previously mentioned contracting work. To see if a wagon would suit the new regime, Mr Davies demoed a



A 4.4m wide non-conditioning disc mower is gentler on the valuable clover element in the grass crop.



Three older Ford tractors will be sold to free up the cash for a larger JCB Fastrac. The 7610 is seen here raking in 7.4m of grass ahead of the Pöttinger wagon

FARM FACTS

Steynton Farm

Staff

Steve and Joanne Davies and herd manager Paul Canning. Part-time help is provided by Daniel Hatch

Area

161ha grassland

Soil type

Red sandstone

Livestock

170 milking cows and around 130 followers

Tractor/handler

2001 JCB Fastrac 3185 (170hp)
2003 JCB Fastrac 2135 4WS (135hp)
2006 JCB Farm Master 414S wheeled loader
2012 JCB Loadall 515-40 telehandler

Implements

Pöttinger Jumbo 6000 silage wagon
Kuhn GMD4410 mower
Pöttinger Eurotop 771A rake
Bauer/Tramspread umbilical system
McConnel Magnum 280 flail mower
McConnel 5860 hedgecutter
Erth Panbuster
Moore Unidrill



Herd manager Paul Canning pushes up the silage when he’s not milking. At milking time the wagon switches to the farther-away fields so that there’s a longer period between loads.

Pöttinger Jumbo 6000 – a 36.5m³ capacity model with a 45-knife chopping system. “Originally we were interested in buying a Torro, but a Jumbo was available from our local dealer so we said we’d try it to find out whether a wagon would work for us,” says Mr Davies. “Once we’d seen the quality of chop I didn’t want to go to the Torro, which only has 39 knives. We were given a good deal on the Jumbo and traded in the Jag and two 12t trailers against it, so we didn’t have to borrow any money.”

Previously a Claas Disco front/rear mower conditioner dropped the grass. While this combo offered decent output the tine conditioner tended to smash up the delicate clover leaves, leaving a swath-full of stems. For the same reason the farm now tries to



An umbilical system was purchased in 2012.

avoid using its tedder. Today grass is cut with a Kuhn GMD4410 plain disc mower and left to wilt across the machine’s full working width. Two mower widths are then raked into one swath.

Mr Davies concedes that, even though the business is still knocking down a relatively broad 4.35m with each pass, the mower is the current bottleneck within the system. Switching to a set of basic triple mowers is now on the cards, and the farm is contemplating the purchase of a front/rear Pöttinger combo for next season. Mr Davies adds that he’s considering the non-conditioner NovaDisc version, which costs in the region of £10,000 less than the contractor-orientated X8 mo/co model.

“This might seem a bit extravagant for our acreage,” says Mr Davies, “but it will allow us to get all the mowing done when grass sugars are at their highest. And the extra output might even make it possible to use



Chop length from the Jumbo wagon’s 45-knife system is a theoretical 34mm when grass is presented across the knives.

wagon to the farther-away fields and then return to the closer fields during the day so that he isn’t kept waiting. With the silage harvester we couldn’t do that.

“Other farmers will look at our silage ground and think ‘why is he bothering to cut that? There’s not enough there’. But we’re aiming for quality, and, if we leave the crop to bulk up more, then the grass simply gets stemmy. Cutting it at the stage we do also means it grows back quicker so we should end up with more silage in the pit.”

Typical work rates for the Fastrac 3185/Jumbo 6000 combo are 24-28ha/day, with each 36.5m³ wagon load of grass pretty much equating to the two 12t Bailey silage trailers used in the previous self-propelled system. As a general rule of thumb the 3185 works its way through one 350-litre tank of



The farm’s 10,000-hour JCB Farm Master 412S has recently been replaced by a 414S.

the same tractor for mowing as on the big wagon.”

Grass is rowed up with a Pöttinger Eurotop 771A twin-rotor rake behind a Ford 7610 – part of a ‘hobby fleet’ of three Ford tractors. These old Fords are now being sold, to be replaced by a larger JCB Fastrac with a front pto, which can be used on the triple mowers, while the existing 2135 and 3185 Fastracs will be retained for lighter jobs such as raking, hedge cutting, slurry work and haulage – if all goes according to plan for the 2014 season.

In terms of geography, the majority of the Davies silage ground lies close to Steynton Farm; the three farthest-away fields total 7.2ha and are four miles from base. But even this long-distance haul isn’t a problem, says Mr Davies.

“The wagon system is so flexible that when Paul is busy milking I can head off with the

fuel for each 50ha cut of silage, which is generally under a mile from Steynton Farm. Yield-wise each cut is expected to be around 750t. The 2135 typically gets through 200 litres of diesel on mowing, while the Farm Master uses a tank of juice pushing up.

“A wagon isn’t for everyone. If you’re doing one big cut of silage, then perhaps a silage wagon is not the machine for you – or, of course, if you’re growing maize or whole-crop,” points out Mr Davies. “But if you want a smaller crop and only have a short haul, then a wagon is the ideal machine.”

The very wet, snatch-and-grab conditions of 2012 did test Mr Davies’s silage-making resolve. One option considered was calling in a contractor. After all, selling the two Fastracs, wagon, mower, rake and loading shovel would pay the contracting charges for the four annual cuts for the next five years.

But when Mr Davies started to crunch the numbers it wasn’t as simple as selling his kit

to pay the contracting bill. The two mainline tractors are needed for other work during the year, and the loading shovel is also a handy tool for keeping on the outlying farm to load the fodder box. Which means only the wagon, mower and rake would no longer be required. Then there's the issue of timeliness and being able to grab available silage-making opportunities in traditionally narrow weather windows. So eventually the decision was made to stick with the existing do-it-yourself approach.

Mr Davies stores the better quality silage in the two clamps at Steynton for the milking cows, while the remainder is clamped at the other yard at Studdolph Farm. One mile away from the main unit, Studdolph is home to the herd's followers and dry cows – all bull calves are sold – and these animals are fed with a fodder box, unlike the main herd that self-feeds at the clamp face, a system that was introduced at Steynton back in 2009.

"I did push for a diet feeder after college, and, to be fair, we did benefit from a little improvement in milk yield – but not a dramatic increase," explains Mr Davies. "When we put in the new parlour we had to alter the other buildings, which then weren't ideally suited to the diet feeder. So we thought we'd try feeding from the clamp face. The system works really well, to the extent that we've had nutritionists and other farmers come to see it in action."

Feeding directly from the clamp prompted Mr Davies to develop a wire feed barrier that can be easily moved along the clamp walls. The cows have 24-hour access to the feed area, and there's the additional benefit of a reduced workload each morning: one man can scrape the yards and cubicles in the time it takes to milk a few batches of cows. The disadvantage to this approach, however, is that all the rainwater from the concreted yard area has to be collected in the slurry lagoon.

"Last year we invested in our own umbilical system and pump," says Mr Davies. "Because of all of the rainwater we were spending £800/month on a contractor to pump slurry. We decided to sell our slurry tanker and trailing shoe and buy our own system, which ended up costing us just under £500/month. It seemed a no-brainer."

A second in-field storage lagoon is planned for this winter, making it more convenient to apply slurry to the silage ground. This spring the farm was even able to follow the

milking herd around the paddocks, with the umbilical system applying slurry as soon as possible to boost regrowth. Investing in his own slurry kit also means Mr Davies can choose to spread when the coastal wind is blowing away from the nearby town, reducing the risk of complaints – a disadvantage of farming on the urban fringe. All the solid muck is spread by a contractor, and this is currently the only job that is outsourced. Always looking at ways to increase sward production/quality, Mr Davies has recently started to direct drill red clover in the spring with a Moore Unidrill. He points out that drilling direct keeps the fields in production for the maximum amount of time, which is critical when attempting to push up cow numbers on a finite area of ground.

Summary: Making high quality silage is a fundamental requirement at Steynton Farm, and the business looks to be achieving this at a sensible cost. Yes, the farm has a large fleet of machinery on its books, but then this policy does allow Mr Davies to take his multiple grass cuts at the optimum time, which is particularly important in a catchy season.

Moving forward, the Davies family is looking to further refine its current system, with, for example, an increase in mower capacity to save on labour and improve overall timeliness. This change will also see the farm's three old Fords replaced with a fresh prime mover in the shape of a Fastrac.

There's no doubt that it's a case of onwards and upwards at Steynton Farm.

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