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Forage box system:

The traditional approach



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The Foster forage box offers a more traditional approach to dairy cow feeding. Here, box muscle is provided by a 93kW/125hp Valtra 6850.

Forage box system:

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When Andrew and Julie Myatt purchased their dairy farm 13 years ago their intention was to create, as best as they were able, an efficient, modern business that would draw on the latest technology and provide a useful income. Based at Ellenhall, Staffs, the Myatts farm about 60ha of which the vast majority is down to grass with about 5ha of forage maize. The land is heavy and susceptible to poaching, which can make the selection

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Andrew and Julie Myatt – convention and conformity are not things to be accepted without question, they say.



Farm Facts

- Size:** 60ha
- Cropping:** 5ha of maize, remainder in grass
- Herd size:** 220 milkers
- Average yield:** 6,500 litres
- Feeding system:** Foster D 990 forage box and Valtra 6850 tractor
- Loader:** Terex pivot-steer with RDS weighing system

of ground for summer grazing challenging when the weather is inclement. As with most dairy herds, there is a big dependence on home-grown grass/maize silage. Yet surprisingly, considering the relatively small areas involved, Andrew and Julie choose to make all of their own using a Claas 680 self-propelled forage harvester purchased second-hand a few years ago – a replacement for a trailed Mengerle model. “There’s nothing like being in complete control of your own silage



making,” says Mr Myatt. “You can cut the grass when it’s at its best, and ensure everything is done correctly at the clamp. And at the end of the day, I thoroughly enjoy driving the forager.”

Such enthusiasm also extends to harvesting the maize silage – a maize header was bought for next to nothing at a farm sale and is said to do the job well.

But back to the herd. Starting out with 70 Holstein cows it was not long before feed costs increased, milk prices dropped and margins began to reduce. And like many within the milk production business, the Myatts realised that, short of getting out of dairying, the only way forward was to expand herd size so that margins could be maintained by economies of scale.

Such expansion, however, had its own costs as the demands for housing and feed increased and the need for a host of other ancillary items and improvements presented themselves.

“It was not an easy time,” says Mr Myatt. “And in the middle of all this expansion we also made the decision to change over from Holstein to Shorthorn cows. We had come to the conclusion that the modern Holstein breed, while clearly being capable of producing high milk yields, was now lacking in vigour and robustness, and would struggle to perform well for the number of lactations we were expecting to achieve.

“For that reason we have been gradually changing over to Shorthorn, which is a breed we believe is able to make better use of our grass.”

Herd numbers are now at about the 220 mark – the result of introducing home-



These cows all have cubicles to go to, but they clearly prefer the straw bedding option.

bred Shorthorn cross heifers into the herd as they have become available.

With a three-fold increase in numbers, housing naturally developed into a major issue. The number of cubicles was exceeded so that a covered straw yard had to be brought into use.

“For those who believe that cows prefer cubicles, it is quite enlightening to see the popularity of the straw yard area,” he says. “Given the choice, the vast majority seem to want to bed down on the straw – which is fine. We have long believed that the social interaction between cows is an important part of herd management.”

It’s not such good news in the parlour, however, where a tandem system built to milk a maximum of 100 cows now struggles to cope with the larger numbers.

“It’s a problem that won’t go away,” he comments. “Somewhere down the line we are going to have to invest capital in a

new parlour; it’s just taking too long to milk the herd. Whether it’s a new herringbone or an extension of our existing parlour remains to be seen.”

A key development that has helped with the herd’s management has been in the feed department.

Like many dairy farmers, the Myatts had been using a diet feeder to prepare the rations. Everyday, a ration was mixed for the cows, which were held in groups of high, medium and low yielders, along with different mixes for groups of dry cows, those about to calve and so on.

“We had more groups than it really made sense to have,” says Mr Myatt. “It was taking hours everyday to mix the required rations – a few kilos of this and a few more of that. It was an endless chore.”

He adds that the cows were not overly happy being moved between groups all



The Foster forage wagon has chains and slats to take the feed up to the beaters, where the ingredients are shredded and mixed before being placed on the exit conveyor.

The Foster forage box holds about 6t of feed. According to the Myatts, the box is a much quicker and more fuel efficient way of feeding the cows when compared with a diet feeder.



A Terex telehandler is employed to load the forage wagon. An RDS weigh load system (above) ensures the amount of feed in each load is known.



Mr Myatt has noticed a significant drop in fuel consumption since moving from a diet feeder to a simple forage box. Above: Belt conveyor is capable of discharging to either side.

the time. Their social structure was under threat, and there was too much bullying as a result.

"It was time for a rethink of the way we were feeding the herd. The point we had overlooked was that the cows were being fed concentrate in the parlour – a flat rate, with the variation being achieved with the diet feeder.

"It was always going to be easier to feed a flat rate of a mixed diet to the entire herd and then vary the amount of concentrate given to individuals in the parlour." All of which seemed logical, providing one is an advocate of in-parlour feeding – which the Myatts clearly are.

Simpler as feeding now was, there was still the considerable chore of assembling a ration using a number of ingredients that were not always stored in the most convenient of places.

"I would scoop up a bucketful of say, protein blend, take it to the mixer wagon and tip out as much as the wagon's weighing display told me to – and then drive back and empty out the rest in the store. It was too much running about," he explains. There was clearly a better way of spending a morning, so it was decided to use the mixer wagon to just feed silage, and then feed to yield with concentrates in the

parlour. It was a system that worked to a degree and one that certainly saved a significant amount of time. But it was not an ideal solution, because our milk yield was being affected.

And then came the realisation that there was perhaps a better way of doing the whole job – a way that could dispense with the diet feeder altogether.

"I began to think along the lines of a forage wagon that could be used to feed out a ration of grass, maize silage, brewers' grains and citrus pulp," he says.

After some searching, Mr Myatt settled on a 6t capacity Foster D 990 forage wagon, which has a reversible chain and slat floor that takes the contents to the front of the wagon before passing them through two horizontal beaters. The resulting mix can be delivered out to the left or right of the Foster D 990 using a hydraulically powered cross conveyor.

"The only problem was that the delivered machine didn't have any weighing facilities, which meant creating consistently accurate rations was going to be almost impossible."

As an alternative, a weighing system was fitted to the farm's Terex telehandler. An RDS system, it determines the weight of a

bucket's contents by measuring the hydraulic pressure in the pipe connected to the lift ram. For accuracy to be achieved, the boom has to be fully retracted and the pressure reading taken when the boom is at a certain height – almost parallel with the ground. To ensure that the reading is taken at the same height,

there is a magnet on the loader frame; a sensor on the boom passes the magnet as it's raised – and it is at this moment that the reading is taken.

"It's a very accurate way of measuring quantities," says Mr Myatt. "And it means that I can collect just enough of the ingredient required by the ration I'm preparing without having to run back and forwards."

To help ensure the ration is delivered to the cows in a mixed state, the ingredients are put in

the box in layers so that the two beaters mix them evenly before depositing the final ration on the conveyor.

"The ration produced is evenly mixed and retains that fibrous quality which is so easy to lose when using a diet feeder that chops as it mixes," he says.

Rather than requiring the best part of a morning to feed all the cows and youngstock, the operation now takes only about an hour to produce and feed out three loads. But the biggest financial saving is in the farm's fuel bill, which has fallen dramatically since the forage box arrived just over a year ago.

"When we had the diet feeder, the powering tractor – a Valtra 6850 – was always running, clocking up hours and burning fuel as it churned the ingredients round," he says. "And then it was the same while it was being driven to the feed passages and so on. With the forage wagon, nothing is moving while I load it up."

The Myatts' herd, except the dry cows, is now fed for 15 litres, with in-parlour feeding making up the deficit with concentrate.

Summary: The simple forage box system works for Andrew and Julie Myatt, and their cows appear to be doing well on it. As Mr Myatt says: "We have very little mastitis or calving problems and, while in time we shall increase our herd average from its current 6,500 litres, I think we have the system about right. And I don't miss the diet feeder one jot."