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Powermix Pro Diet Feeders

PAGE 3.....Product History & Design

PAGE 4.....Manufacturing & Support

PAGE 5-7.....Jason & Katharine Salisbury, Suffolk, 11m Popular

PAGE 8.....C Read & Sons, Suffolk, 25m Express

PAGE 10.....The Hall Family, Yorkshire, 22m Express

PAGE 12.....University of Bristol, Bristol, 19m Express

PAGE 14.....JF Temple & Sons, North Norfolk, 15m Express

PAGE 16.....Brian Archer, Derbyshire, 11m Express

PAGE 18.....ES Burroughs & Son, Beccles, 19m Express

PAGE 20.....Wyke Farms, Somerset, 22m Express

PAGE 22.....Holkham Farming Company Limited, Norfolk, 11m Express

PAGE 24.....Howell Richards, Carmarthenshire, 25m Express

PAGE 26.....Chris Park, Cumbria, 12m Express

PAGE 28.....Aldbourn Chase Farm, Wiltshire, 19m Express

PAGE 30.....Peter & Robert Fare, Lancashire, 11m Popular

We started manufacturing mixer wagons in 1994 when it came to our attention that North American farmers were starting to use vertical screw tub mixers in greater numbers across their dairy and beef units.

However, these machines were immense and required a 200hp tractor to drive. They were not suitable for UK farms with restricted yards and buildings, and a distinct lack of horsepower available! This did not deter us as we sent an engineer to the States to have a look at these large feeders, and he was tasked with designing a version for sale here in the UK.

What appealed to our company about this product was that vertical mixers offered versatility and the capacity to chop bales, plus handle and mix pre-chopped materials which could not be completed then with horizontal mixers. Vertical mixers also required less horsepower, which suited smaller farm units in the UK.

A clean sheet of paper for the UK design resulted in a machine giving us excellent mix quality, a low power requirement and the ability to chop bales. We also developed specialised conveyor systems, as UK farmers tended to have multiple feed requirements, loading into different buildings and troughs, all at different heights.

Since its introduction, our Powermix range has been developed from an original 4.5 cubic metre version, and size has continued on a gradual rise to the 25 cubic metre machines now available. Back in the mid-nineties, an average stock farm was mixing 4-6 tonnes per day, but now it would not be uncommon to mix 100 tonnes per day.

Therefore machines have evolved in size and durability to handle this increase in capacity. The twin auger range was introduced in 2001, boosting capacity to 20 cubic metres. Initially these featured a chain drive auger using a horizontal chain, this was then replaced with a gearbox drive in 2006 with the Powermix Pro series.

Chain drive was ideal for smaller machines and loads, but for modern users who were mixing larger quantities then the gearbox approach offered a lower maintenance requirement and greater durability. This is a sign of development which has originated from customers' needs, and we now give a three year driveline warranty to give peace of mind for operators of our mixers.

We continue to develop our Powermix machines with UK livestock farmers to ensure reliability, durability and performance. Our background in machine support means we understand parts and service is essential to keep a mixer working 24 hours per day and 365 days per year, either via our dealers or directly from Stanton. Commonly used parts stocks are also kept in locations throughout the UK for easy access, ensuring your Shelbourne mixer wagon is working as soon as possible should there be any mechanical issue.

Neil Smith
Sales and Marketing Director

Design

Designing a machine is not a simple operation.

We consider many factors, but ultimately we must design our products to meet customer demands. We tend to be customer-led in our approach, and welcome feedback on how we do things.

Our design team is based in our Stanton factory, and is made up of seven full-time engineers, each of whom works on specific products. These engineers are also product specialists, and are well placed to answer customer queries on machines bearing in mind that they designed the machine in the first place.

The team works on new machine concepts, modifications and changes to specifications, generates all parts books and operator manuals, plus works closely with the sales, parts and service teams to ensure when we design a machine it is backed up, and that

any customer input is taken on board.

Using 3D Solid Works software the design team supply our modern manufacturing facility with all information, whether in the form of drawings or directly to state-of-the-art laser cutting and CNC machines. All of our design engineers have an agricultural or manufacturing background, ensuring that they understand the requirements you have for a machine, whether it is a mixer wagon, trimmer or muck spreader.



The Design Office

Manufacturing

Manufacturing is based in Stanton, a few miles North East of Bury St Edmunds, Suffolk. In our 90,000 square foot factory we employ over 130 people.

We carry out high standard manufacturing with modern equipment such as laser cutters and CNC machines, plus have our own powder coating paint plant to ensure a high quality finish to every machine that leaves to be delivered to our dealers.

Our manufacturing facility is closely linked to our design office to ensure any changes to machines are made when specifications are changed, with feedback to ensure that these are possible. Most metal panels are laser cut and then bent in-house, and we retain the majority of welding in-house to retain quality. We even manufacture complete gearboxes for our stripper headers to ensure that they are to our exact standards.

Support

Unless we can back up a machine, it is of little use to our customers.

This is why we hold great significance in ensuring that we can support our machines where it matters – in the field. Whether through technical support over the phone, from supplying parts or from servicing on-farm, our backup service is key.

We have close links with our UK and export dealers who can generally assist you with most day-to-day parts and service requirements. However, we can also call on our trained technicians on the road to assist when required. Our service manager, James Swinstead, is responsible for ensuring that we look after our customers and their machines, while Andy Freeman handles the management of parts stock and distribution. We run a full overnight parts service, and the fact that we manufacture in Stanton means that we always have parts available for instant dispatch to customers and dealers.



Our Manufacturing Facility

Before delivery, however, comes inspection. All machines are fully assembled, built up and tested prior to delivery, meaning that they are ready to go to work once on farm. Mixer wagons are assembled, given a full run up to check augers, doors and conveyors, weighing systems are calibrated and a full PDI is carried out before the machine is loaded for delivery.

What this means for our customers is that each Shelbourne machine that leaves our factory is thoroughly checked and tested and will be ready for work, this reduces hassle for the dealer and customer.



On The Road Support

As a customer-motivated company, we offer excellent support during office hours where there is always someone who can answer your query, plus an out-of-hours service for emergency contact if required.

Our product specialists work with our service and parts teams to ensure that your Shelbourne machine is up and running as soon as possible. We know breakdowns costs money and time, and ultimately we realise that as a professional company selling to professional users, downtime is not an option.



Jason & Katharine Salisbury

CREETING ST MARY, SUFFOLK, UK (11m Popular)



“The feeder and the tractor have never had a problem mixing from a standstill, and the result is a very good mix”

Consistent mix means quality cheese.

Producing milk for cheesemaking demands consistency of constituents – and that in turn means consistency of ration is equally important. It's for this reason that Suffolk dairy farmers and cheese producers Jason and Katharine Salisbury decided to switch to total mixed ration feeding, and to entrust a Shelbourne Reynolds Powermix to produce the TMR for their 40-head Guernsey herd.

The Salisburys had previously been renting elsewhere before moving in 2008 to their current 43ha (109ac) farm at Creeting St Mary, near Needham Market. The derelict former pig unit required significant investment, but following the construction of new housing and milking facilities, the farm was producing milk by the following year.

At the same time, having identified the potential to shorten the processing chain and deal directly with food suppliers and consumers, they also opened a cheese dairy and a farm shop. Milk is pasteurised on farm, then hand-made by Katharine into Suffolk Blue, Suffolk Gold and Suffolk Brie cheeses, while some is also sold to a local ice cream producer and a small amount of liquid milk is retailed from the farm gate.

Cow numbers were increased steadily as cheese demand grew, with the focus on feeding and breeding for protein. Eighty per cent of replacements come from within the herd, with others sourced from a breeder on the Isle of Wight.

Jason & Katharine Salisbury (cont.)

CREETING ST MARY, SUFFOLK, UK (11m Popular)



“One of the main reasons we decided on a Shelbourne was that a number of other local farmers recommended the Powermix machines”

But while they had been able to create from scratch the sort of milking and housing complex they wanted, Jason and Katharine, who employ no staff apart from a relief milker, were less sure about their feeding set-up.

“Having a relatively small herd with year-round calving, we chose to feed the milking and dry cows manually,” says Jason.

“But distributing the ingredients from a loader grab/bucket was labour-intensive. More importantly, it wasn’t giving us the consistent mix needed to ensure the cows were getting the correctly-balanced intake of different feed ingredients for the high protein milk needed for cheesemaking. For instance, the more dominant cows were often picking out more than their share of beet pulp nuts.”

Having decided to switch to TMR feeding, a compact machine was a priority, in order that the relatively small yard could be easily negotiated,

while a package to enable independent weighing, given that the farm operates only one tractor plus loader, was also required.

“A visit to the Livestock Event gave me the chance to have a look at the machines on the market, but one of the main reasons we decided on a Shelbourne was that a number of other local farmers recommended the Powermix machines. The fact they are made nearby was a bonus, but they also appeared to be straightforward and well-priced machines, and I was impressed by the knowledge of the people behind them.”

Following an extended demonstration period to prove the machine’s capabilities, in 2011 Jason purchased a Powermix Pro Popular 11. The 11 cu m feeder is powered by the farm’s loader-equipped 90hp New Holland TD5050, and with that being the farm’s only tractor, it is loaded without the auger running, with the weighscale having its own battery connection.



“This is a very dry part of the country, and isn’t ideal for growing grass,” points out Jason.

“What we do get is of fairly low nutritional quality. We keep the cows out as much as possible, but after a couple of spring grazes there is little good grass growth after mid-June.”

“As a result, we make no grass silage, and the feeder is used all year round. We fill the cows up after morning milking, then let them out to ruminate, before they come back in for more feed following afternoon milking.”

Mixed for between five and ten minutes, the TMR comprises baled lucerne silage and clamped maize silage in equal measure, plus a protein blend comprising rapeseed meal, wheat/barley meal, sugar beet pulp pellets and distillers grains. From that, the herd is averaging 5,800 litres from twice-a-day milking, at 3.95% protein and just under 7% butterfat.

First into the feeder is a round bale of lucerne silage, followed by the

“The feeder and the tractor have never had a problem mixing from a standstill, and the result is a very good mix”

maize silage ration, and then the dry ingredients. Dry cows get 3kg of a dry cow pellet and maize and lucerne silages.

“The feeder and the tractor have never had a problem mixing from a standstill, and the result is a very good mix” says Jason.

“We’ve overcome the problem of selective feeding, we’ve got a more accurate idea of the weight of each element going into the ration, and the whole job is far less labour-intensive. And we’ve also got the more consistent mix we were looking for, to give our cheese the consistency our customers expect.”

That shows up not only in the increasing sales of Suffolk Farmhouse Cheeses from the farm, but also in the condition of the cows and the regard in which they are held. The Salisburys regularly enter the Guernsey classes at the Livestock Event and the Suffolk and Royal Norfolk shows and, despite being relative newcomers to the breed, have had considerable success in the show ring. It’s a testament to the work they put into the management of the herd, and the decisions they have made in everything from breeding to feeding.



Despite being relative newcomers to the breed the Salisburys have had considerable success in the show ring.



C Read & Sons

BURROUGH GREEN, SUFFOLK, UK (25m Express)

"For a machine which has its work cut out to get through a lot of work each day, it's never let us down."



"The machine can be mixing and distributing up to five loads of 14t daily in summer, and 32t/day in winter, so it works hard"

housed in straw yards, and finished in 90-140 days at 720kg liveweight. With up to 2,000 head of cattle kept across the business's four main farm units, its twin-auger Shelbourne-Reynolds Powermix Pro 25 is kept busy for much of the day.

"The machine can be mixing and distributing up to five loads of 14t daily in summer, and 32t/day in winter, so it works hard. We're feeding a 35kg/head TMR of grass and maize silage, rolled barley and fodder beet, plus brewers' grains and minerals. The rest of the starch element comes from locally-sourced reject root vegetables, which can be any or all of parsnips, potatoes and chips. I buy according to the best price I'm given, and the cattle do well whatever the vegetable elements are in the mix."

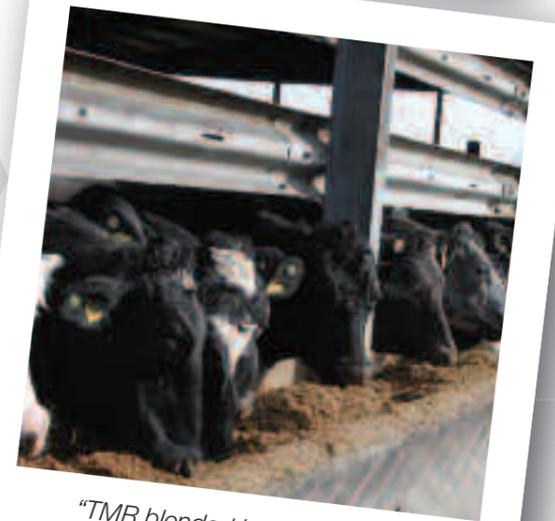
In total, around 100 finished cattle, split evenly between the three types, leave the farm units each week, destined ultimately for the shelves of Waitrose supermarkets across the country. Quality feeds help to ensure cattle meet the specifications demanded when on the hoof, but getting those ingredients inside them when they're on the hoof is where the Powermix makes its contribution.

"It gives us a thorough mix that ensures the cattle are getting every bit of their intended diet", says Peter.

"And for a machine which has its work cut out to get through a lot of work each day, it's never let us down."



"Twin-auger Shelbourne-Reynolds Powermix Pro 25 is kept busy for much of the day."



"TMR blended by a Powermix Pro Diet Feeder"

Prime beef from top-class ration

A diet that includes ingredients ranging from potatoes and parsnips to oven chips sounds like one that would suit most stomachs. But it's the beef cattle at C Read and Sons' Suffolk farm that get to enjoy such a selection, as part of a TMR blended by a Shelbourne Reynolds Powermix Pro diet feeder. And the resulting beef meets the demanding specifications of a supermarket known for its discerning customers.

Based at Burrough Green, not far from Newmarket, low rainfall means grass growth is not a strong point in what is predominantly an arable area. The upside of the sandy loam soils surrounding the farm's clay land, though, is the extensive area of vegetable crops grown locally. It means there's an excellent supply of reject roots – those too big or too small for packers, processing and the supermarket trade – that can be used to provide a low cost yet high quality starch element for the cattle, as part of a mix including more traditional TMR ingredients.

"We've got a wide selection of different, good quality reject vegetables we can pick from, and what we buy depends on their relative prices," says Peter Read, who runs the business with his father and two uncles.

"Aside from some minerals and brewers' grains, none of our TMR ingredients comes from more than a few miles from the farm. We produce as much as we can, but we are primarily a livestock farm growing feed crops, rather than an arable farm with cattle. We grow our own grass, cereals and maize, and either source the ingredients we can't grow from suppliers, or contract land from other farmers on which to grow crops such as fodder beet."

Peter's Uncle Francis spends much of his week on the road, sourcing two-year-old cattle from farms and markets across England, but primarily in the West Country. The animals, comprising Hereford, Aberdeen-Angus and continental crosses, are loose-



"It gives us a thorough mix that ensures the cattle are getting every bit of their intended diet"



The Hall Family

HUDDERSFIELD, YORKSHIRE, UK (22m Express)

"When we started using the Powermix, the average daily yield per cow rose by two litres."



"The Powermix machines looked to be strongly-built and well-engineered."

Difficulties getting sufficient straw into dry cows to maximise rumen fill have been overcome on a Yorkshire dairy unit by switching from a Keenan diet feeder to a Shelbourne Reynolds twin-auger model.

The Powermix Twin 22 purchased by the Hall family, with twin augers and a 22 cu m capacity, today single-handedly feeds 700 milking Holsteins, dry cows, followers and black and white bulls.

"We wanted to change to an auger-based machine primarily because of the dry cow transition problems we had been experiencing," explains Sally Hall.

Her aim is to ensure intakes of 7.5kg/head of chopped straw at each dry cow feed. To do this, the material needs to be short enough to prevent selective feeding from the mix, but long enough to provide rumen stimulus.

"With our Keenan feeder, we weren't getting sufficient straw into our dry cows to keep the energy density of the dry cow ration low enough

for a good transition. The paddles took too long to get the straw down to the ideal length without pre-processing, which also meant the cows were able to sort the material and eat what they wanted."

"We are expanding the size of our herd, and so also wanted a machine that would produce a consistent mix to prevent selection, be able to chop straw swiftly and consistently, and feed all of our milkers, dry cows, followers and bulls, with minimum mixing time."

Assessment of the vertical auger-based alternatives on the market led to the Halls to pick out a Shelbourne Reynolds Powermix for a number of reasons, says Sally.

"Firstly, it was the design and the specification that impressed us. The Powermix machines looked to be strongly-built and well-engineered."

We wanted a high-capacity machine, but it had to be compact enough to fit our passageways, so overall dimensions were important. Robustness and warranty are also essential as, with the number of cows to feed and different mixes to do, the machine has a significant workload and we can't afford down time."

"But accuracy was just as important. With Shelbourne we could specify a top-spec Digi-Star scale and display, enabling us to measure the inputs and feed-outs for each of the TMRs with a high level of accuracy."

Delivered in summer 2013, the farm's Powermix Pro 22 was put straight to work feeding a TMR of grass silage, liquid feed and wholecrop wheat. In addition it is used to prepare caustic-treated wheat and a pre-mix based on chopped straw, concentrates and minerals.

"The feeder is operating for between eight and twelve hours/day all year round, feeding at least seven mixes a day, so it has its work cut out. But the advice and back-up we've had from Shelbourne in setting up and supporting it has been really good. I think it's one of the benefits of having a machine that is made in the UK."

"The Digi-Star system is easy to program, and allows us to ensure we are feeding exactly the right amount of each ingredient and total ration per head. Being able to order it as part of the package was a big plus point."

With a team of two in the pit and a third person bringing cows in, the Halls can put 210 cows/hr through the farm's rapid exit 40/40 parlour. Since switching to the new feeder, they have also moved from milking morning and afternoon to three times a day, to counter low milk prices by raising output. But it's not just this which has helped increase yields.

"When we started using the Powermix, the average daily yield per cow rose by two litres," says Sally.

"I put that down to the improved consistency of the mix, and having enough short and long processed particles in the mix for optimum rumen function. It's helped us achieve an average annual yield of 11,000 litres at 3.96% butterfat and 3.27% protein. As our main aim is to maximise lifetime yield, it's been a very good investment."





University Of Bristol

LANGFORD, BRISTOL, UK (19m Express)



"We were using a paddle feeder, but a need to process bales and improve the consistency of the ration meant we switched to an auger-based machine."

Feeder forms part of veterinary unit's overhaul

The dairy unit used to train students as part of one of the UK's most respected veterinary schools has undergone a transformation over the past five years, with changes covering everything from new management to new infrastructure. At the same time, TMR feeding has become the responsibility of a Shelbourne Reynolds twin auger machine, taking the place of a paddle-type feeder.

The unit at Wyndhurst Farm is part of the University of Bristol's Faculty of Medical and Veterinary Sciences, and its job is to act as a key resource for the training of veterinary students, while also performing as an economically-viable enterprise. Five years ago a review of the University's management policy led to farm management company Velcourt being contracted to run the unit, but that did not signal a step back from the farm's role in student education, or its importance to the University and its veterinary school.

On the contrary, since then, herd size has doubled, a number of new buildings have been erected and total mixed ration feeding for the year-round housed herd has become the responsibility of a Shelbourne Reynolds Powermix Pro 19 twin-auger diet feeder.

"When I came here at the same time we were appointed to manage the unit, there was a herd of 100 Holsteins," explains Velcourt farm manager, David Hichens, who runs the unit with a herdsman and one other member of staff.

"The University decided that, in order to provide the best possible facilities and training for the students, expansion and investment were essential. That led to us doubling the herd size to 200 head over the next few years, while there was also a significant investment in new buildings."



"It saves a fair bit of time, which is especially welcome as we are not heavily staffed"

But it's investment in feeding which has also helped the herd to reach its current impressive average of 9,500 litres at 4% butterfat and 3.3% protein, with milk supplied for bottling to Muller Wiseman at Bridgewater

"Protein is a measure of energy and health, and that's our focus," says David.

"In-milk cows are housed all year round, so good quality housing and feeding facilities are particularly important. When I came here, we were using a paddle feeder, but a need to process bales and improve the consistency of the ration meant we switched to an auger-based machine."

"That was a Shelbourne Powermix, and since then we have stuck with them, as they're proved themselves reliable, solid and effective. As the herd expanded we moved from a single auger 13 cu m machine to the 19 cu m twin auger model we run today."

Aside from youngstock and dry cow grazing, the 110ha (275ac) farm provides 40ha of grass for silage, 36ha of maize and 15ha of wholecrop wheat, with some land double-cropped with grass and maize in a single season. These crops form the basis of the TMR fed all-year round to the milkers, dry cows and youngstock.

"Shelbourne Powermix proved themselves reliable, solid and effective."

"Our ration comprises chopped straw, grass silage, wholecrop wheat silage, maize silage, haylage, molasses and a concentrate blend," David explains.

"The herd is split into low and high-yielding groups, and ration quantities are tailored accordingly, while the heifers get a similar diet roughage-wise but without the high energy of the molasses or concentrate."

"Big square baled haylage forms a key forage element in all the diets, and to save time when mixing feeds, we put a number of bales into the feeder at once, process them and then eject them so we have a stockpile for use in the following couple of feeds. At a 1,000rpm pto speed, in ten minutes we can process a tub full of bales. It helps having a four-speed pto on the tractor, as we can engage the pto at a low speed to ease the load when the feeder's full of unprocessed bales."

"It's a big ask of the machine, but even though we use a relatively small 115hp tractor on the front, it and the feeder have no problem handling the task, and it saves a fair bit of time, which is especially welcome as we are not heavily staffed, particularly when there are only two on duty at weekends. A paddle feeder just wouldn't give us this sort of ability."



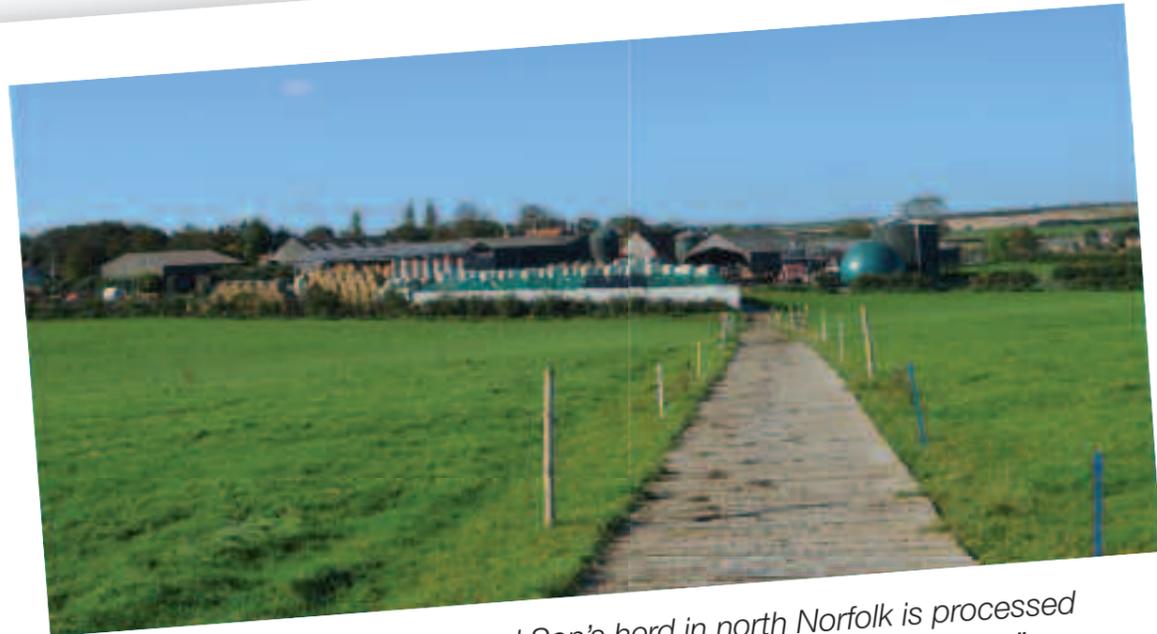
"It's a big ask of the machine, but even though we use a relatively small 115hp tractor on the front, it and the feeder have no problem handling the task"



JF Temple & Sons

NORTH NORFOLK, UK (15m Express)

"All three of our Shelbourne machines play an essential role in the daily running of the farm"



"The TMR for JF Temple and Son's herd in north Norfolk is processed and blended by an 11 cu m Shelbourne Reynolds Powermix."

Diet feeder duo's different roles

There are two Shelbourne Reynolds Powermix machines on JF Temple and Son's North Norfolk dairy unit, but only one is used for feeding the farm's 98-head dairy herd and its followers. The other is permanently engaged in mixing materials for an anaerobic digester powering a gas engine which, in addition to supplying surplus power to the grid, generates electricity for the host farm, including the cheese-making venture it supports. With those AD materials sourced wholly from the farm's cropping, dairy and cheese enterprises, the system provides an excellent example of self-sufficient farming.

Founded by Stephen and Catherine Temple in the wake of the foot-and-mouth disease epidemic of 2001, when it was decided to take greater control of the end market for the business's produce, the 'Mrs Temple's' cheese business is based in converted buildings in the yard at Copy's Green Farm, Wighton. Following the switch from a liquid milk supply contract to focus on producing the ideal milk for cheesemaking, the business began to move from Holsteins to Brown Swiss cows, and there are now just three Holsteins remaining in the 98-strong herd. Around half of the milk they produce annually is used for on-farm cheese production, with the remainder sold through Arla.

"Mrs Temple's Cheese is all made in converted buildings in the yard at Copy's Green Farm"



"Following a switch in focus from liquid milk sales to on-farm cheesemaking, the herd at Copy's Green Farm is now almost wholly Brown Swiss"

"We were running a high-yielding herd, averaging 11,750 litres, but with the new focus on cheesemaking the constituent make-up of the milk was the important factor," says Stephen Temple.

"As well as being more robust than Holsteins, Brown Swiss cows produce milk with higher levels of beta kappa casein, which is an essential element in cheesemaking."

"Our herd was founded from cows bred from the Brundish herd of Brown Swiss, supplemented with new blood from other sources – in 2013 we imported 66 in-calf heifers from Bavaria. The milkers are out grazing for as much of the year as possible, which has been made possible partly because of the paddock and track system we created two years ago. We provide some buffer feed to the milkers throughout the year, while dry cows are kept in and buffer-fed to ensure the correct mineral balance."

While the dry cow ration consists of grass and maize silage, chopped straw and a protein nut, twice daily the milkers receive a blend of maize and grass silages plus a pre-mix containing rolled barley, oilseed rape meal, soya, molasses and limestone flour. The TMR is processed and blended by an 11 cu m Shelbourne Reynolds Powermix, with silage loaded using a Shelbourne Parmiter Shear Bucket.

"I bought our first Shear Bucket in 2005, as I wanted to reduce silage spoilage caused by air entering the clamp, and I've found it to make an excellent job of sealing the silage face when cutting a block. Good experience with it meant that when our diet feeder came due for replacement two years later I looked at Shelbourne machines, and given that they appeared to have the same sort of build quality I decided to purchase a Powermix 11. It produces a good mix, and having the manufacturer nearby is reassuring, as is the fact they are responsive to feedback and have always been willing to help with any issues, coming out to the farm where required."

In 2012, the business purchased a second diet feeder, but this time destined for a different job.

"We decided to make use of the opportunities for anaerobic digestion provided by our waste products, including whey from the cheesemaking, strawy slurry, and any spoiled silage, plus fodder beet," explains Stephen.

"To do this we installed a 170 kW gas engine and an anaerobic digester to power it. In order to supply a blend of those raw materials for

"The farm's second Powermix model is a fixed unit that feeds the AD plant which feed powers a gas engine, and is fully loaded with a telehandler two or three times a day"

maximum methane production, we also installed a diet feeder, fixed into position, to mix the materials and feed the digester. The feeder is electrically-powered, and mixes 18 hours a day."

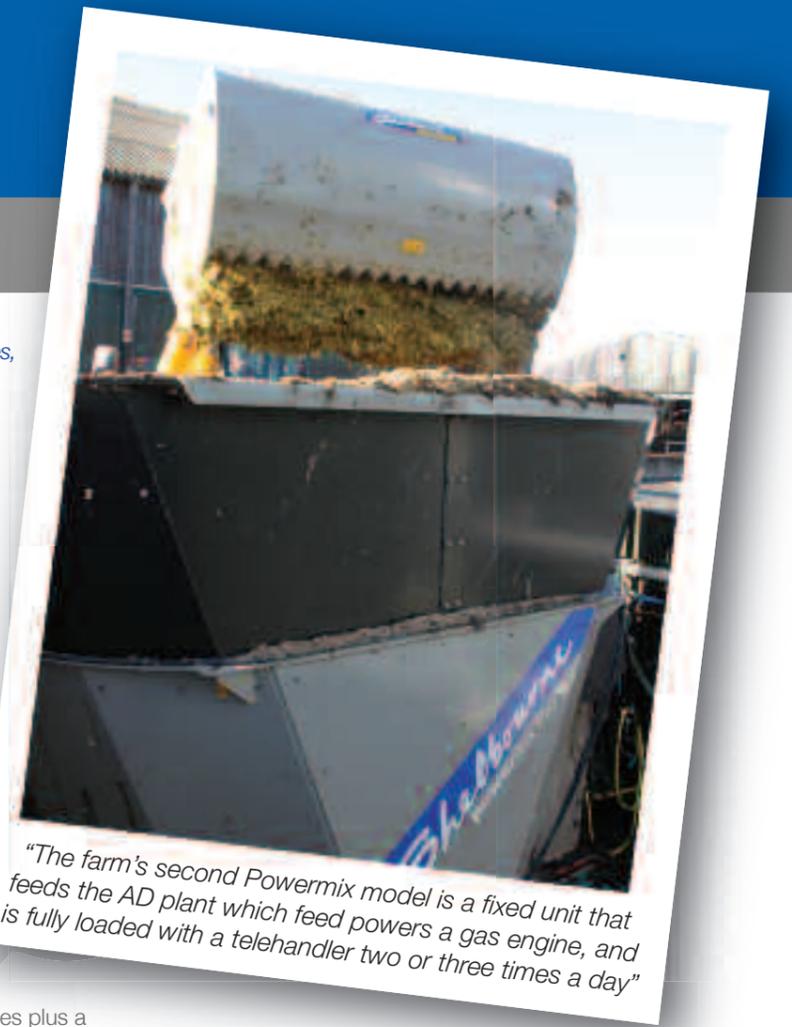
The feeder is fully loaded with a telehandler two or three times a day, and topped up as required, with a last fill made at night. Since 2011 the gas engine has produced 4.5 gigawatt hours of electricity, with three-quarters of that exported to the grid.

"But the tub of the feeder we installed, which was of another make, didn't stand up for long to the corrosive elements of the slurry and silage, and after two years had developed some leaks, while a gearbox fault also occurred," says Stephen.

"Due to the good experiences we'd had with the Shelbourne feeder for the cows, I decided that, rather than rebuild the existing AD plant machine, I'd replace it with a Shelbourne Powermix 15."

"It was delivered and installed quicker than our previous feeder maker could supply a new gearbox, and has been totally reliable since it began work."

"All three of our Shelbourne machines play an essential role in the daily running of the farm, and I've been very pleased with their performance and the support from the factory."





Brian Archer

DERBYSHIRE, UK (11m Express)

The Shelbourne Reynolds Powermix machine was in a different league - much stronger and more solid.

A switch from feeding with a forage box in favour of the first diet feeder to be bought by a Derbyshire dairy farm has helped reduce rumen problems and boost butterfat levels among its high-performing British Friesians, despite an unchanged ration.

Brian Archer's Collycroft herd is currently one of the highest yielding of the breed in the UK, averaging 8,400 litres at 4.1% butterfat and 3.3% protein. What's all the more impressive is that this is achieved using a simple, relatively low-cost diet, centred on grass silage, hay and straw, with no maize and low concentrate rates.

"British Friesians are lower maintenance cows, and compared with Holsteins require less feed for similar milk output," says Brian, explaining his breed choice. He milks 180 head, and rears all his own replacements, with bull calves retained and finished on-farm.

"We operate a closed herd, using British Friesians on both heifers and cows, and calve all year round. To allow us to feed to yield, the herd is split into low, mid and high-performing groups, according to maintenance plus 16, 22 and 26 litres. They are fed all year round, with grazing supplemented with a summer ration."

Investment in facilities and equipment has been substantial in recent years, and following the installation at the beginning of the decade of new housing with mattress-equipped cubicles to increase cow comfort and reduce cell counts, more recently it has been the feeding regime that has come under scrutiny for improvement.

The move from forage box feeding to investing in the farm's first diet feeder came about primarily because of Brian's desire to put more roughage into his cattle's ration, and improve the rumen function.

"I use barley straw to provide the scratch factor required for good rumen function, and hay to provide the 'float' needed to carry the rumen contents. With the box, though, I wasn't able to process bales or get straw and hay down to the ideal lengths for this."

"I also wanted to be able to incorporate most of the concentrate element into the ration, so that I wouldn't be trying to get all the cows' concentrate requirements into them at milkings."

Having decided to switch to a diet feeder, the choice between a paddle type and an auger machine was relatively easy, he says.

"A paddle feeder wouldn't provide the ability to process bales, or get roughage to the right length. With an auger machine, I know I can put whole bales in and chop them to the length I'm looking for."

If that decision was simple, choice of manufacturer was also surprisingly straightforward, Brian recalls.

"I had a look at a few different makes, but the build quality of some wasn't very impressive. The Shelbourne Reynolds Powermix machine was in a different league - much stronger and more solid."

"I wanted a simple, single-auger feeder with a feed-out door - with the layout we have, there's no need for cross-conveyors or anything more complicated. Shelbourne could supply what I wanted, so we purchased an ex-demo single-auger Powermix Pro 11 through Platts Harris at Darley Dale."

After its first full season of use, improved feed intake through better hay and straw processing and the inclusion of most of the concentrate ration in the TMR was not the only advantage Brian noticed.

"We still feed a little concentrate in the parlour, but most of it is now in the TMR, which the cows have access to throughout the day for gradual feeding. As a result, we are seeing fewer rumen problems and improved general health as concentrate intake is more gradual."

"Our nutritionist, David Rhodes of Promar International, helped us devise a base diet comprising 6kg pressed sugar beet pulp, 5kg brewers grains, 7kg dairy blend, 3kg home-grown rolled barley and



"Shelbourne could supply what I wanted, so we purchased an ex-demo single-auger Powermix Pro 11 through Platts Harris at Darley Dale."

minerals, plus 36kg/head grass silage. Aside from the inclusion in that mix of the concentrate and the consequent reduction in cake fed in the parlour, we haven't changed from the ration we were using before we bought the Powermix."

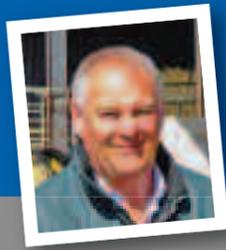
"Despite that, though, our butterfat levels rose 0.1-0.2% after the machine was introduced, which I believe was a result of the improved mix and the concentrate inclusion."

"It took a little time to find the ideal chop length for the roughage, and our nutritionist was keen not to over-process. At first we were chopping straw and hay down to an inch, but we've since moved the knives so they are just in one notch to give a 3in chop, and the result gives just the right length and mix."

"The knives look likely to do a full three seasons before needing replacement, so I reckon they're as well-made as the rest of the machine."



"The knives look likely to do a full three seasons before needing replacement, so I reckon they're as well-made as the rest of the machine."



ES Burroughs & Son

OAKLANDS FARM, ALDEBY, BECCLES, SUFFOLK (19m Express)

“Easy to load, even in sheds”



“We aim to feed a ration which gives around 5% remaining in troughs.”



“Features which impress the Burroughs are the strong build of the machine, long lasting rotor knives and the tandem axle.”

from the main farm. However, parts were becoming scarce and the reliability was down so it was felt that investment into a new machine would be required. Although the family considered Shelbourne and another European make, they liked the build quality of the British-built machine and the lifting, bi-directional cross conveyor, controlled by a simple three switch joystick. Being local to the factory for future parts and service backup also helped sway the vote.

“Although badged as 16 cubic metres, the mixer is in fact a 19 cubic capacity version as before the first day of use was out, dry material was found to be spilling out of from the top during mixing. A call to Shelbourne led to a straw retaining ring extension arriving the next day to boost capacity up by 3 cubic metres, but it is still easy to load, even in sheds”, says Mr Burroughs.

Other features which impress the Burroughs are the strong build of the machine, long lasting rotor knives (which in 18 months have yet to be sharpened) and the tandem axle, which was specified with springs to improve the road ride to and from the dairy unit. The feed out conveyor, which can be lifted to over four feet each side, is also singled out for praise as it aids in working both sides and into many different pens or troughs.

While the high and low cows are out on grass, the mixer is generally employed on buffer feeding duties, with the same ration mixed but distributed over different cow numbers - highs are classed in the 28-30 litre category, while lows are the 20 litre beasts. Stock Friesian bulls are employed on the bulling heifers and cows which are difficult to get in calf, with AI employed to deliver beef breeding to cows not required for breeding. The farm handles around 200 calves per year, with Pedigree British Friesian heifers reared for dairy replacements and beef crosses sold for sucker replacements.

“We aim to feed a ration which gives around 5% remaining in troughs,” says Mr Burroughs. “We do this as we then know we are not under-feeding, and all the remainder goes to heifers. If we had none left then we know we are under the right ration.”

To ensure this is achievable, the mixer is fitted with a Digi Star EZ3600V scale system, which is said to work to a very high accuracy. Weigh cell positioning is cited as excellent, each one situated in an easy to reach location rather than being tucked underneath the body. As part of the package when the machine came home, the Burroughs specified Digi Star’s TMR interactive tracker software too.

This was an integral part of a plan put in place to reduce costs, working with the farm’s nutritionist Rodney Allen to bring greater savings. It is aimed at retaining or improving the farm’s 8,000-litre yield, 4% butterfat and 3.2% protein averages, with all milk heading to the independent Marybelle dairy in Rendham, Suffolk.

The Digi Star system allows a farmer to manage stocks of inputs, such as compounds, minerals and silage, allocate a mix to a certain category of animal and provide analysis of what is fed and wasted.

“This removes errors in feeding,” says Mr Burroughs, “and to ensure we optimise yields per cow, this has to be exact and the mixer is only as good as what is put in it. The system uses individual operator codes to ensure all load the same amounts, and it then tells them what to feed and at what quantity.”

All of this data is programmed on to a key, which only one person has access to. This facilitates uploading and downloading between the farm office computer, and also ensures that no changes in feeding rations can be made, only the number of cows receiving it.

The data from this is used to analyse peaks and troughs in milk yield, health issues and identify where any tweaks can be made, taking the guess work out so to speak. All of this data, along with the reliability and accuracy of mix found with their Shelbourne mixer is leading the Oakalby Herd to further yield average improvements and better returns in what is a massively tight margin business.

High input costs makes Powermix Pro even more valuable.

As a family-run business with limited resources and staff, David Burroughs is always looking to fine tune his 1,000-acre dairy and arable enterprise at Aldeby, near Beccles, Suffolk. Run in partnership with his son Jamie and sister Margaret, the farm has spent the past few years considering how best to manage rising input costs.

“The cost of raw materials has become a real issue, with feed costs up 68% in the last year alone,” says Mr Burroughs, “and so we have decided to go to a full TMR system to help keep these costs under control as we look to expand our 150-head pedigree British Friesian Oakalby herd to 200 in the next couple of years.”

With straw prices up, the farm is also moving to a full cubicle system to accommodate the extra animals and improve output

per man. September 2011 will see the herd to 180 head, and up to 200 in early 2012. Grazing on the farm’s marshes will support the new herd size over the summer, and the unit uses more grass silage than maize, both of which are cut and clamped by a contractor.

As part of the business’ development plans, ways to improve margins were looked at. “We were considering how to do this by feeding as cheaply as possible,” he comments, “and one area we considered was improving the mixing of rations. This led to our Shelbourne Powermix Pro 16 Express twin axle, twin auger mixer wagon arriving on farm in late 2009.”

The Burroughs had previously been using a single rotor mixer for their feeding at the dairy unit, which lies some three miles



“The Digi Star system allows a farmer to manage stocks of inputs such as compounds, minerals and silage.”



Wyke Farms

WYKE CHAMPFLOWER, BRUTON, SOMERSET (22m Express)



"The Shelbourne machine ticked all the right boxes when it came to replacement."

Powermix ticks all the boxes for famous cheese producer.

Cheesemaking in Somerset has always been a familiar tradition, especially in the famous Cheddar region. However, today there are very few producers with less than ten left in the area. When producing one of the UK's favorite farmhouse cheddars, Wyke Farms rely on the latest technology and machinery, which includes two Shelbourne Powermix Pro Express feeders to keep their dairy herd fed.

Covering 1,500 acres around Wyke Champflower in the heart of the Cheddar region, Wyke Farms is far from a small enterprise and has 150 years of experience. Located across three different farms, 1,000 head of cattle produce milk for their own family cheese making. Part-owner Roger Clothier is in charge of the machinery side of the operation, including machine selection and

maintenance. Reliability and versatility of the products used are a key issue to Mr Clothier, so today the responsibility of keeping these Friesian cows and 700 followers fed every day is down to two 22 cubic metre Powermix Pro Express machines.

The first Powermix feeder was purchased some four years ago to replace an aging machine which had carried out seven years of service prior and was basically worn out.

"Reliability issues in addition to problems sourcing parts from the manufacturer meant we needed to find a replacement," says Mr Clothier. "The Shelbourne machine ticked all the right boxes when it came to replacement."

Purchased from local dealer Read Agri at Frome, the Powermix Pro is a twin auger, twin axle tub mixer machine which comes in three sizes of 19, 22 and 25 cubic metres, suitable for the largest of dairy herds. Located on Wyke Farms' doorstep, Read Agri offered a good parts and service back-up which helped to clinch the deal of the 22 cubic metre unit.

A second feeder from Shelbourne arrived in 2011 as it was decided one machine was not enough for the feeding job in hand. The identical machine was delivered in May and carries out the bulk of the feeding, whilst the older machine is generally used as a back-up.

The 1,500 acres are divided into 1,100 acres of grass, with Italian Ryegrass for silage with a number of acres of permanent grassland for grazing, while the remaining 400 acres are down to maize. Feeding once a day, the mix generally consists of a 50/50 maize and grass silage, with protein and wheat added as required. With a power requirement of 130hp, the Wyke Farms machines are powered by a 145hp John Deere 6830 which is more than adequate for the operation.



"Moving between farms means 15 to 20 miles of travelling, often fully loaded down rough concrete tracks which the machines have taken in their stride."

"Moving between the farms means 15 to 20 miles of traveling, often fully loaded down rough concrete tracks which the machines have taken in their stride", says Mr Clothier. However the latest machine has a heavier-duty commercial axle which has stood up well to the demands of the daily feed 'run'.

When choosing the correct feeder for the job, Wyke Farms had a number of requirements says Mr Clothier. "With three different farms we needed a feeder which could elevate feed into many various shape and size feed troughs," he explains. "Not only do we need to feed on both the left and right but we also have to elevate the feed to a variety of heights."

Both Powermix feeders are fitted with the front 'Express' conveyor which can be shuttled both to the left and right, in addition to being able to elevate feed to a height of 4'8", ideal for the majority of feeding situations in Somerset. The wider 3'1" door also provides an excellent view of the mix as it moves onto the webbing conveyor", Mr Clothier adds.

When it comes to replacement, Wyke Farms have no issue with replacing with another Shelbourne machine, and the older Powermix will likely stay for the foreseeable future with the latest machine expected to be replaced after two years to ensure the lead feeder is kept up-to-date.





Holkham Farming Company Limited

EGMERE, WALSINGHAM, NORFOLK (11m Express)



"Feeding over the winter falls to a Shelbourne Powermix Pro Express 11, which is now in its fourth season on the farm."

True local beef kept well fed by Powermix Pro Express 11.

You cannot head to North Norfolk without seeing a sign for Holkham Hall, and this famous eighteenth-century house is still home to the Coke family, also better known as the Earl of Leicester. Today, as part of the Holkham Estate, Lord Leicester owns some 25,000 acres surrounding the impressive house.

Much of this area is taken up with the stunning hall's parkland grounds and a nature reserve. However, 6,500 acres falls under the mantle of Holkham Farming Company Limited, managed by Mark Bowyer. Cropping consists of wheat, barley, sugar beet, carrots, potatoes and parsnips, in addition to both pasture and marshland.

Also part of the farming operation is a 500-strong suckler beef herd, kept at two farms in Warham and Wells-next-the-Sea, a

distance of around three miles apart. Making up the suckler herd are 200 breeding heifers, of which 140 are calved in the spring between February and May, and the remaining 60 from August to October. Breeding is mainly Simmental crossed with South Devon, using six stock bulls – three South Devons, two Simmental and one Aberdeen Angus for crossing heifers the first time. All stock is reared on the estate, and the herd has gradually switched from Hereford x Friesians which were inherited by herd manager John Smith in 2002.

With 80 to 90 per cent of stock finished on-farm and sold to a local butcher for marketing, all need regular and accurate feeding to ensure prime weights for this truly local produce. Feeding over the winter falls to a Shelbourne Powermix Pro Express 11, which is now in its fourth season on the farm.



"The reason we opted to go for the mixer wagon was its versatility in feeding."

Despite the availability of many acres of marsh and regular grassland grazing, stock are kept in for calving and over the winter, with each group of animals requiring slightly varied feed ration mixes.

Once calved, Mr Smith aims to get the heifers and progeny back out as soon as possible to take advantage of the grass available, mainly to reduce input feed costs, although feed is predominantly sourced from the estate's arable farmland.

The Shelbourne comes into its own predominantly in the winter months, when it runs the six mile round trip between the two yards to feed store cattle. Hooked up to a John Deere 5820 tractor, the 11 cubic metre single rotor machine replaced an old forage box in 2008 which just could not handle fodder beet and turnips, plus was unable to place feed sideways into troughs of varying heights and widths.

In peak periods the mixer can be loaded four times per day, running full to the Wells site having been loaded at Warham. Mr Smith reckons the machine will handle up to five tonnes of material, and is just right for the unit's requirements.

"The reason we opted to go for the mixer wagon was its versatility in feeding," says Mr Smith. "It is also easy to manage rations that we feed, and although not massively complicated, they need to be right."

Main mixes consist of silage and fodder beet with added minerals for breeding heifers and store beasts, with fatteners receiving silage, fodder beet and barley; the latter needed to give a good finish for animals which never generally travel more than about fifteen miles from where they were born during their lifetime.

"The mixer is a well-built machine and very manoeuvrable"

Mr Smith says the farm did look at other manufacturers of mixer wagons, but chose the Shelbourne as two neighbouring farmers had similar machines, and reports were good enough to prompt the Powermix Pro's arrival. As well as reliability reported by other farmers, another reason in opting for the Suffolk-built machine was locality of spare parts and service, should they be required.

Despite being at the smaller end of Shelbourne's extensive mixer wagon range, Mr Smith says that the machine is asked to handle big bale silage and roots, chopping both materials extremely efficiently. The machine has optional extra corner knives included, but these have only required sharpening once per year if being used on drier silage material.

Another area noted for praise is the conveyor fitted to the machine. Capable of shifting left or right, plus elevating in either position, this is said to aid in getting feed right into the varied pen or trough heights at both yards.

"The mixer is a well-built machine and very manoeuvrable," he adds. "It has proved to be a solid, reliable machine which has worked without fail to enable our herd to be fed both efficiently and accurately."



"It is also easy to manage rations that we feed, and although not massively complicated, they need to be right."



Howell Richards

CWRT MALLE, CARMARTHENSHIRE (25m Express)



"We run these machines hard and they must work all year round."

Large Welsh dairy onto third Shelbourne feeder.

For Carmarthenshire dairy farmer Howell Richards, based at Cwrt Malle, opting for a Shelbourne feeder wagon is now a routine rather than a choice it seems. Now on his third machine, a 25 cubic metre Powermix Express, Mr Richards has run another identical-sized Shelbourne feeder, and previous to that a 22 cubic metre version. This is based on a policy of changing every two years, as feeders on the 1,800-head unit work every day of the year without fail.

"We run these machines hard and they must work all year round," says Mr Richards. "To this extent, we have stuck with Shelbourne feeders as they are a good firm and offer seven days a week backup, which is important to us." Milk is supplied to Freshways Dairies in London, with levels nearing 10,000 litres per cow. "We would like more but it is important to have happy animals," indicates Mr Richards.

The 1,600 milking Holsteins (with 200 dry animals) are spread across two farms in the Carmarthenshire countryside, and with road work between them, ease of transport is always a must. Feeding rations consist of maize, grass silage, straw and blends, with up to 6 loads per day for the milking cows and one for the drys. The business covers 1,150 acres of grass with 300 to 400



"We have stuck with Shelbourne feeders as they are a good firm and offer seven days a week backup."

Working in cubicles and loose areas, the Powermix Express is found to be ideal for a multitude of tasks. The left/right shift conveyor finds favour here as a feature which enables the machine to adapt to where it is, and also feed into troughs. Equipped with a non-steering axle and manual hydraulics, the Welsh-based machine is by no means overcomplicated.

"We keep it simple," Mr Richards comments. "We buy big machines to do less trips, which are quicker to load and mix in less time."

So will another big Shelbourne remain in Wales? The answer is likely a yes given the reliability and mixing qualities of the current and previous Shelbourne machines, aiding in the expansion of this enterprising unit.

under cropping for maize and grass silage, harvested by a local contractor.

Milkers receive the same rations, but drys tend to receive just grass silage and chopped straw. Using a wireless display in the loading JCB, operators know exactly what is going into the feeder, and the DigiStar system is said to be very accurate for each load mixed.

Feeding is carried out using a 128hp Kubota M128 tractor, which may seem a little small for the size of the feeder, but by all accounts it handles the bulk well.

"We don't overfill and will have around 10 or 12 tonnes in each load," Mr Richards points out. "Power requirement for these machines is low anyway, and mix quality

is good and straw chopping is enough for what we need to help with rumination of the animals."



Mark Harvey

HINTON ST MARY ESTATE, DORSET (13m Express)



"We run these machines hard and they must work all year round."

A dairy farm's diet feeder must count as being the farm's most used machine. No luxury of being parked for a few months under the barn alongside such seasonal implements as mowers or balers – the diet feeder is required to work every day of the year. And the demands on diet feeders can only become greater as dairy herds become progressively larger and adopt a permanent housing policy.

The feeding regime employed by Hinton St Mary Estate for its 400-cow dairy herd – plus 225 followers – is typical perhaps of a modern dairy farm looking to maximise production and profitability. A Velcourt farm managed by Mark Harvey, the farmed area runs to about 1,750 acres. Of this, 1,000 acres is used for arable crop production and the remainder for grass and forage maize.

"We have a big dependence on providing our own feed," says Mr Harvey. "And ensuring we make a sufficient volume of good quality grass and maize silage is an essential part of the herd's nutrition. This year's increase in the price of purchased concentrate has been quite dramatic."

Tasked with preparing and mixing the cows' rations is a Shelbourne Reynolds Powermix Pro 13m Express – one of the new range introduced by the company last year. A single vertical auger machine, it uses its auger to chop and mix by lifting ingredients from the centre of the chamber to tumble them down the outer edge and create a continuous 'volcanic' flow cycle within the machine.

"This is the second Shelbourne diet feeder we have had – the previous one worked every day for four years", he says. "And with a record like that, the obvious decision is to have another one."

The new machine arrived at the estate, which is near Sturminster Newton in Dorset, October 2006. Since then it has been putting together seven loads a day for the cows as well as being used to

chop straw and haylage as a separate entity for inclusion in the next day's rations.

"We feed the cows in three groups," explains Mr Harvey. "The highest yielders averaging 42 litres/day are fed a ration for 38 litres, the mid yielders averaging 28 litres/day are fed for 20 litres/day and the low yielders averaging 18 litres/day are fed for 15 litres."

In-parlour feeding through cow identification makes up the yield deficit for individual cows to maintain the current herd average for milk sold of 8600 litres. The milk is sold on contract to mature cheddar cheese specialist, Ashley Chase, based at nearby Bridport. Mr Harvey points out that it takes about 20 minutes to produce each 13 cu m load – he has opted for the simplest of weight display system which, operated by remote control from the loader, enables the correct weights of ration ingredients to be added to the mix.

"By simply zeroing the display after each ingredient has been added, the operator can just put in the required weight of the next component without having to do any maths," he says. "When all the mix is complete he can run a check by looking at the total weight of the mix."

The Powermix is also used to mix part loads for young stock or for the dry cows.

"The only word of caution I have when mixing is that it is not left to mix for any longer than three minutes," he insists. "After that time the mix can start to lose its fibrous content by being over chopped."

With a variety of feed out requirements – to the left and right, feed passages on the floor, central feed channels and one or two besides, the versatility of the mixer's feed out system is fully utilised. The front conveyor which is fed from a hydraulically raised guillotine door can be set to deliver to either side of the machine and can be extended outwards and raised to feed over barriers.

"Having the feed out conveyor at the front provides the operator with a very good view of the feed being delivered and can control the volume required by looking at the weight change on the display," he explains.

The proof of it all, however, is in the eating and how the cows perform during their lactation and on this score he comments that the mix is accurate and, equally important for efficient digestion, fibrous in nature. Overall then, Mr Harvey would appear to be pleased with the performance of the Shelbourne Powermix Pro 13 Express.

"When it comes to feeding our cows and young stock there's not anything that this diet feeder can't do," he says. "Mechanically it is strong and well engineered and it does what it says on the label – which is to mix rations accurately, reliably and efficiently."



Chris Park

KENDAL, CUMBRIA, UK (12m Express)

"It is the control of the system that is so useful"



"We have been TMR for some time now and have become reliant on having a good quality mixer wagon that can produce the rations we need for the cows."

Low Sizergh Farm, near Kendal, just south of the Lake District National Park, is a busy place – not just because there are 150 cows which need to be milked three times a day, but also because there is a farm shop and tea room which draws in over 150,000 visitors a year.

In charge of the farm, is Chris Park who exudes an energy and enthusiasm for his dairy herd that overcomes all suggestion that three times a day milking can be pretty demanding.

"We've been milking like this for about 18 months and it has become a routine for everyone concerned," he says. "More importantly, the three times a day milking has increased the herd average to 9,000 litres – a boost of 1,000 litres when compared with the former twice a day system."

The farm, which takes its name from the nearby 14th century Sizergh Castle, runs to about 300 acres and has been classed as organic for the last nine years. Not surprisingly in an area of the

UK which sees more than its share of rainfall, the vast majority of the acreage is down to grass for grazing and silage production. There is, however, about 20 acres of wheat which is cut for whole crop silage.

All the young stock – the progeny from the cows – are retained on the farm for six months after which the heifer calves are sent away to be contract reared before rejoining the herd. Calving takes place all the year round.

One of the latest acquisitions for the farm has been a Shelbourne Reynolds diet feeder – a 9m Powermix Pro which has a single mixing auger and is supplied complete with feed out conveyor.

"We have been TMR for some time now and have become reliant on having a good quality mixer wagon that can produce the rations we need for the cows," explains Mr Park. "Prior to the Shelbourne, which arrived in March 2007, we had a Keenan paddle-type machine."

One of the Powermix's greatest attributes, he says, is its ability to chop and process big bales – something the farm was unable to do with its previous machine - and the overall speed at which it can prepare a load.

"I think when we consider these abilities and combine them with the feed out conveyor system, which can deliver both to the left and to the right, the reason why this particular mixer wagon was chosen becomes clear."

The plan is to mix a ration containing grass silage, whole crop silage, soya and maize plus crimped cereals and minerals. Silage is added first followed by the whole crop and then the other ingredients.

"The large display for the weight indicator is invaluable," points out Mr Park. "Working from a diet ingredient sheet we can accurately

add the required amount of ingredients so that there is next to no over or under feeding."

With the fixed knives extended into the chamber, the mix takes about five minutes to complete - Mr Park points out that the mixing action is pretty aggressive, this is good in that feeds are prepared quickly and thoroughly. Mixed feed is then distributed along the feed barriers using the conveyor/elevator feed out system.

"It is the control of the system which is so useful and the ability to feed to the left or right adds in a high degree of flexibility when it comes to feeding around some buildings," he says. "The positioning of the conveyor at the front of the machine so that it can be seen by the operator from the tractor cab is also a useful feature."

Fed for 28 litres, the cows also receive concentrate in the parlour during milking to provide an individual feed to yield system and, during the summer when they are out to grass, the cows are also provided with a buffer feed.

Having the farm shop and tea rooms provides a useful outlet for a percentage of the milk produced on the farm which is sold as ice cream, cheese and also straight milk.

However, Mr Park recognises that to maximise the returns on these outlets, the milk needs to be of good quality and he is convinced that the way the Shelbourne mixer wagon presents the ration to the cows has a bearing on achieving the quality he needs.

"We have a butter fat average of about 4% and protein of 3.2% which I think is about where we should be," he says. "Mixing diets is not just about the ingredients – it's also how the food is presented and the way the cow's digestion system utilises the feed as a result."

Overall then, after just 4 years use with the Shelbourne Reynolds Powermix Pro, what is the verdict?

"I'm very pleased with it," he says. "It produces a good accurate feed that retains the fibrous nature I think is so important, it is easy to operate and it's reliable. Above all else, it helps us produce good quality milk."

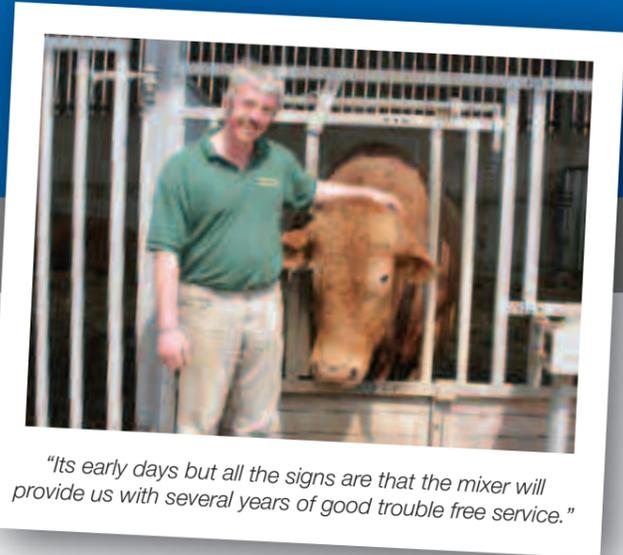




Aldbourn Chase Farms

MARLBOROUGH, WILTSHIRE, UK (19m Express)

"The mixing time has been reduced by about a third"



"It's early days but all the signs are that the mixer will provide us with several years of good trouble free service."



"The diet feeder arrived at the beginning of 2007. I have to say that it has behaved impeccably without a hint of a problem."

A high fibre content is now considered to be an important part of a diet if feed efficiency is to be maximised. As such, it is essential that a diet feeder can process straw so that it becomes an integral part of the ration.

The beef enterprise on Aldbourne Chase Farms managed by David Armstrong involves the running of 150 pedigree South Devons and 90 Angus x Holstein suckler cows. The resulting progeny are finished at about 750kg at an age of about 18 to 20 months with some of the heifers sold or retained for breeding stock.

The farm, which is based at Woodsend, Aldbourne, near Marlborough, Wiltshire, majors in being self sufficient by providing home grown feed for the cattle and draws on the arable side of the business to provide it.

Running to a total of 2,000 acres, the arable sector uses about 1,500 acres to grow wheat, barley and oilseed rape while the remaining 500 acres is used to provide the winter forage and summer grazing for the cattle.

Having said that, each year sees 100 acres of grass and a similar acreage of maize rotated around the arable area.

"We calve in two nine week batches," explains Mr Armstrong. The heifer replacements calve in the autumn and the main herd in the spring."

This arrangement is designed to give the heifers an extra few months before they are put to the bull again and means that the bulls are run with the autumn calvers for nine weeks from the end of January and with the spring calvers for nine weeks from the end of May.

While the farm relies on grazing during the summer months, nutrition during the housed period is provided by home grown feed mixed by a Shelbourne Reynolds 19cu m, twin vertical auger Powermix.

"The diet feeder arrived at the beginning of 2007 and was responsible for feeding the cattle from day one," he says. "And I have to say that it has behaved impeccably without a hint of a problem."

One of the key points to keep under control is the weight of the Devon cows and, as a result, during the housed period they are fed a daily diet of straw mixed with 6kg of silage and minerals.

"This diet keeps them on the slim side and reduces any problems we may have had at calving," he explains. "When they have calved we reduce the straw which has been pretty much adlib to about 3kg and give them as much silage as they can clear up in a day."

With straw being a major ingredient it was important that the Shelbourne diet feeder was capable of chopping and handling what can be something of a tester for some makes of machine.

Mr Armstrong points out that on this score, the mixer has no problems what so ever in reducing whole bales of straw to a well chopped – but not over chopped - consistency that mixes readily with the other ingredients.

"One of the criticisms of the diets produced by the mixer the Shelbourne replaced was that the cattle used to pick through the diet," he says. "It wasn't a mixed diet as such – more of a group of individual components in the same trough."

Autumn born calves are weaned in early August and the Spring calves in late September or early October. At weaning the calves are housed and fed a diet of grass silage, straw and minerals with the steers getting a boost of 4kg/day of maize silage mixed in.



During the winter months a total of six loads a day need to be mixed which may seem to be a high number but is required due to the volume of straw being mixed.

"There is no way round it – what ever diet feeder you are using," he says. "The straw content does occupy a lot of space in the mixing chamber and it doesn't weigh very much. Straw is important though and I am a strong believer in providing plenty of fibre in a ration."

Three loads are put together for the dry cows, while another mix is made for the autumn calvers, another for the steers with their extra maize silage, and the sixth goes to the rearing stock.

Mr Armstrong says the straw goes in first – a Claas Quadrant square bale with its strings removed is simply dropped into the mixing hopper and left to chop and shred for about five minutes. The grass silage goes in next and then finally the minerals for a total mix time of between 10 – 15 minutes a load.

"As with all these machines it is possible to over mix but with a sensible operator we have very few problems," he says.

So what benefits has the Shelbourne Reynolds mixer wagon brought to the farm?

"To start with, the mixing time has been reduced by about a third which, at weekends can be a valuable saving in overtime payments during the course of a winter feed period," he says.

He adds that the ability to feed left or right over feed barriers has also simplified the job and reduced the need for some intricate reversing operations.

For the mixer itself, he pays tribute to the strength of the machine and the use of shafts and gear boxes to drive augers rather than chains used on earlier machines.

"It's early days but all the signs are that the mixer will provide us with several years of good, trouble free service," he says. "And, equally important is that the cattle utilise the feed produced efficiently so that feed costs are reduced and production is maximised."



Peter & Robert Fare

KIRKHAM, LANCASHIRE (11m Popular)



"One of the first things we noticed was the big reduction in waste and that the cows were eating all of it without picking through it."

The purchase of a Shelbourne Reynolds Powermix Popular diet feeder has created new opportunities for one Lancs-based dairy farm.

Peter and Robert Fare – a father and son team who run a 110-cow dairy herd near Kirkham, Lancashire – clearly believe that to get the best performance from their cows requires care, compassion and attention to detail. And it is a formula that appears to be working well.

Based in the village of Roseacre, Post Farm comprises just 160 acres of which the vast majority is down to grass but there is also about 12 acres employed to produce whole crop wheat.

The cows, as you would expect, are housed during the winter in cubicles, but are allowed out to grass during the day in the spring and summer – their grazing working in with the two cuts of silage that are taken.

2007's first cut was significantly down in volume when compared with the previous year and, according to Robert Fare, the second cut doesn't look to have too much bulk in it.

"Last year we managed to fill the clamp and had to resort to round baling with the amount of grass we had," he says. "But this year's cold spring has left its mark and I think it's a good job we have the whole crop wheat to fall back on."

In addition to the 110 cows, there are also the followers – the on-farm stock numbers increases rapidly during the summer and autumn, when the cows are scheduled to calve.

"We use an Angus bull on the heifers and a black and white from there on," explains Robert. "We try and create as few problems as we can when introducing heifers into the herd."



"I am just amazed and pleased at how the cows have adapted to the system."

The herd average is put at 7,800 litres and there is a very respectable milk quality in terms of butter fat, which is 4.4% and a protein of 3.41%.

Helping, no doubt, to produce these quality figures is the cows' diet which is mixed by a Shelbourne Reynolds Powermix Popular 11. The mixer wagon arrived in November 2006 and has proved to be a worthy investment, insists Robert.

"I am just amazed and pleased at how the cows have adapted to the system," he says.

The cows are fed a diet which includes grass silage, whole crop wheat, protein blend and minerals. With the large amount of silage made last year it was important that the mixer wagon could handle and process the large bales that were made when the clamp was full.

"We hadn't ordered the mixer with any fixed knives," he explains. "And we were concerned whether without them it would manage to chop the bales up sufficiently."

Robert's concern proved to be unfounded – the machine processed the bales well, albeit at a slower pace than if the knives had been available.

"It was certainly better when we put two bales in," he explains. "There was then more resistance for the auger blades to do their work. I would think it took about six or seven minutes to chop the bales down to lengths of about four inches – time we use to add the other ingredients."

Clamp silage, both grass and the whole crop, is cut and loaded with a shear grab.

"One of the first things we noted was the big reduction in waste and that the cows were eating all of it without picking through it. Our previous system of simply loading out silage meant that a significant amount was spoiled every day."

Despite the success with the diet mixer, Robert and his father are still reluctant to stop parlour feeding – even though they admit it's a habit

"The drive system is simple and strong and the auger clearly does a good job"

which is hard to break. Instead, the cows are fed as a single group during the winter this means that two loads are required each day and fed concentrate in the parlour to match individual yields.

The cows are also buffer fed during the summer months when they are at grass – Robert says this not only keeps the milk yield and quality on line but also helps overcome the fall in yield during the transition from silage to grass in the spring and vice versa in autumn when the cows are re-housed.

For the coming autumn, there are plans to use the mixer to produce feed for the young stock and also to create a high fibre ration for the dry cows as they approach their calving date.

"In many ways, we are still learning and discovering just what we can actually do with the mixer," he says. "It really has opened up all sorts of new avenues we could take to improve our production – and hopefully reduce costs."

So, no problems with what the mixer produces – a well mixed feed that the cows consume all of and do not pick through – how about the machine itself?

"Mechanically, it's very sound," says Robert. "The drive system is simple and strong and the auger clearly does a good job."

He adds that the maintenance is pretty basic in that he greases once a week and checks the gearbox oil level at about the same interval.

"Overall, I think that in the Shelbourne mixer, we have a good machine that is going to serve us and our herd well," he concludes.



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