

# Mastergen



The parent company of Mastergen is Germany's largest farmer co-operative, MASTERRIND



Alison Dunphy, Managing Director

**B**reeding cows may sound like the most basic and time-honoured of functions – something that scarcely changes as technology moves on. But nothing could be further from the truth, according to Mastergen, a small but rapidly growing company from the westcountry, who say that computing power and the influence of the internet, an improving knowledge of the bovine genome and semen sexing technology have each contributed to a transformation in the way UK farmers breed their cows.

This transformation has been essential in keeping UK farmers competitive and in business, according to Alison Dunphy, founder and managing director of the cattle breeding company. She says she was keen to help establish Mastergen – a subsidiary of the huge German farmer-owned co-operative, MASTERRIND – because she could see that modern farmers needed to have a hi-tech method of selecting bull semen which cost them less than the traditional approach.

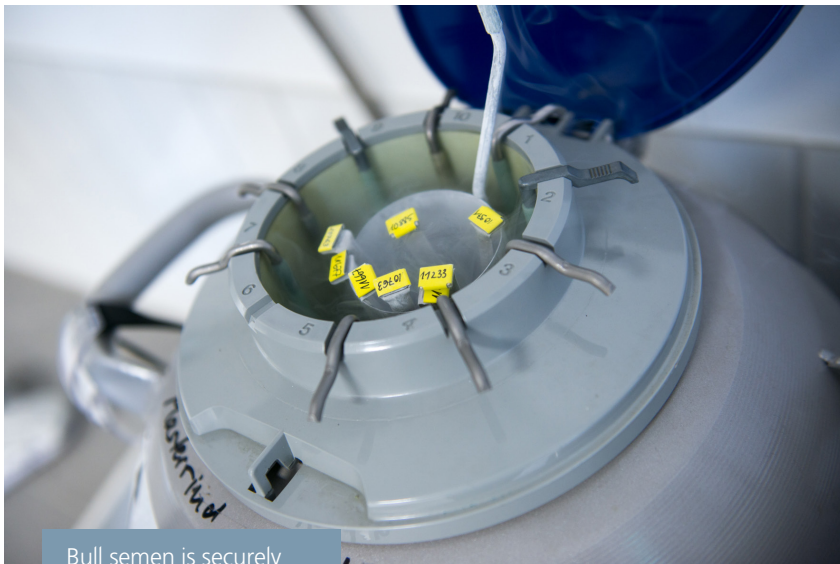
'Dairy farmers are our main customers and they have been under intense financial pressure over the past two decades,' she says. 'The price they receive for their milk is little more than it was 20 years ago, which means the industry is struggling to afford person-to-person visits to the farm by traditional salesmen, the cost of which will ultimately be passed back to the farmer.'

## Cutting the cost of bull semen

The idea behind Mastergen was to cut out the cost of keeping sales reps and cars on the road and bring the ordering of bull semen on to the internet or phone.

### FACTS ABOUT MASTERGEN

- » Founded in 2014 to supply cost-effective bull semen to dairy and beef farmers
- » A subsidiary of MASTERRIND, the largest farmer-owned breeding co-op in Germany
- » A streamlined importing process from Germany has cut bureaucracy and cost
- » Cutting out the traditional sales force helps reduce costs to the farmer further
- » A sophisticated interactive website helps farmers with bull selection
- » Around 90% of semen sold is from highly selected young genomic bulls
- » Customers make rapid progress in their cattle using high quality genetics
- » The right choice of genetics makes a significant contribution to a business's profitability



Bull semen is securely stored in liquid nitrogen at -196 degrees Celsius

“Today, it’s more important than ever to breed cows which can enjoy high standards of welfare”

Mastergen specialises in selling bull semen to UK farmers



Behind the Mastergen website and sire selection process is a gigantic database from the entire dairy farming industry which today gathers more information about dairy cows than was imaginable 20 years ago.

‘This doesn’t just mean information about the cows’ milk quality and production but includes information on their conformation – or the way they are put together – their ability to walk well, to resist disease and even their life expectancy.’

### Predicted breeding indexes

This information on the millions of dairy cows around the world is brought together to create predicted breeding patterns for every single bull. And it is from these patterns that genetic indexes are calculated, which are used by modern farmers to help them improve their herds.

‘This means farmers now have a very reliable idea of how a particular bull’s daughters will perform on their own farms, and they can choose the bulls they use on the strength of their daughters’ predicted looks, health and production,’ she explains.

‘Today, it’s more important than ever that they breed cows which can enjoy high standards of welfare so it’s a priority for Mastergen to highlight the bulls which transmit good genetics for health, locomotion and lifespan when we advise farmers.’

### Indexes based on daughter performance

Genetic indexes based on the performance of bulls’ daughters are colloquially known as ‘daughter proofs’, and – because of the time taken for daughters to mature and start milking – the bull tends to be around five years old when he receives his first daughter proof.

## Genomic indexes based on DNA

However, since 2012, the UK dairy industry has been calculating genomic indexes for young bulls, which are breeding predictions based on information taken from each bull's own unique DNA profile.

'This was an important development for farmers, as it meant they could use much younger bulls with more modern, and potentially better bloodlines, long before they had a daughter proof, with a far greater understanding of how they would breed,' says Alison. 'In particular, the early prediction of health traits is much more reliable using DNA profiling than using parent averages based on progeny testing, which means there's a higher degree of accuracy for young bulls now entering the MASTERRIND stud.'

'At Mastergen, and our parent company, MASTERRIND, we place a lot of store in these genomic indexes and have brought many young sires to the market whose indexes are based on their DNA profile,' she says. 'In fact, around 90 per cent of the semen now sold by Mastergen is from young, genomically tested sires which are too young to have a daughter proof of their own.'

This is a ringing endorsement, not only of Mastergen's own portfolio, but of the genomic testing process as a method of evaluating the breeding potential of young bulls.

## Sexed female semen

Alongside genomic testing, another important technology from the last two or more decades has been that of semen sexing.

'This gives a mating more than 90 per cent chance of resulting in a female calf, which is the bloodstock for all dairy farmers, representing their next working generation,' she says.



Genomic selection helps farmers make more precise bull selection and speeds up genetic improvement

'It also allows another group of animals in the herd to be bred to beef semen, which gives the farmer a commercially far more valuable animal than if he had bred a male dairy bull calf.'

The combination of sexed semen and DNA testing has been part of a highly sophisticated cattle breeding industry in which enormous strides have been made in terms of cattle production, conformation, health and welfare.

'We at Mastergen are extremely proud to have contributed to this revolution, we are particularly privileged to have such a high quality portfolio of bulls at our disposal, which are sourced by MASTERRIND from the best international cow families, and we're delighted in the confidence UK farmers have placed in this stud,' says Alison. 'Farmers have appreciated our streamlined, no-frills process in a difficult economic climate and as a result, we have grown rapidly since we began trading in 2014, despite a decline in the number of UK dairy producers.'

'We have slashed the cost of sales and bureaucracy to keep costs to the farmer low but the only thing we won't compromise is the quality of our genetics.'

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