



Every producer sets goals for his farm. These goals may differ, but the herd is always at the heart of the business. In this six-part series we set out to help you to improve your herd. Our third article focuses on breeding to improve herd efficiency.

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Simple approach helps producers achieve their breeding goal

Focus on greater efficiency

Breeding has an important role to play in improving herd efficiency. But how do producers know that they're choosing the ideal sires to help them focus on this breeding goal, when bull proofs offer such a wealth of useful information?

text **Rachael Porter**

Breeding for efficiency. All producers are doing that, right? Wrong. Unless you are, in fact, selecting sires for efficiency – and for that read kilogrammes of fat and protein, longevity, feed intake, body weight, and daughter fertility – you may be way off the mark.

And that's where CRV's Herd Navigator tool comes into its own. It allows producers to define a breeding goal and then if, for example, its efficiency they're looking for it focuses on selecting the

best bulls for production and all the traits previously listed to achieve that.

"It's all about keeping it simple. Breeding is not complicated – you get what you breed for. This tool, or approach, allows producers to keep whatever that may be in their sights. It can get confusing with so many traits and key figures to keep in mind when looking at lists of sires. This homes in on what's important to achieve a particular goal," says CRV Avoncroft's David Matthews.

Table 1 does, indeed, show that

'efficiency' is quite broad in terms of selection traits. "In fact it is the one link between all other goals that producers may select for. Producers looking to breed for efficiency are particularly focused on milk yield, kilogrammes of fat and protein, longevity, feed intake and, not surprisingly, profit," adds Mr Matthews.

Milk components

Bulls from the CRV breeding programme certainly sire daughters that produce milk containing more protein and butterfat, allowing producers to potentially pocket a larger milk cheque with the same number of cows.

This high fat and protein production can be achieved with roughly two kinds of sires – high component bulls and bulls with a high milk production and a clear bottom limit for the milk components. So both these types of sire would make it on to the list of possible bulls to select



Niek Berkhout: "My cows are bred to turn feed into milk with ease"



Gerard and Geertje Heuthorst: "We're looking for good longevity"

when looking to breed for efficiency. High fat and protein production is important, but it is only the beginning. It will only bring real added value if this is produced efficiently from a healthy and fertile herd. Low feeding, culling and vet and med costs are also important, as is good fertility.

Feed intake is important too and, for greater efficiency, additional emphasis on persistency, maturity, calving interval and bodyweight is also required. In essence, producers are looking for a cow that efficiently turns feed into milk with high longevity.

Key measurements here are lifetime energy intake in relation to lifetime milk yield, adding +5% to the efficiency score equates to 750kg more milk from same amount of feed.

Producers often ask for help to optimise herd results and to determine which 'accent' is needed when selecting sires. Extra help, and underlining CRV's integrated approach, are the two breeding figures Better Life Efficiency and Better Life Health. The former takes productivity and combines it with longevity to ensure high efficiency. For example, a sire with a score of +5% generates a financial gain of £215 per cow life in an average herd. Milk production, feed intake and longevity are particularly important in calculating Better Life Efficiency, but persistency, maturity rate, fertility and weight are also taken into account in the calculation. One Dutch producer, who's taken the

breeding for efficiency route is Niek Berkhout. Based in northern part of the Netherlands, he runs what he describes as a 'simple and low cost' system. He's increased cow numbers from 120 to 240 head without significant investment, the herd is milked through a traditional herringbone milking parlour and all cows are fed the same ration.

Easy-to-manage cows

Niek identified a problem with somatic cell count and began to milk record to identify the problem cows within the herd. It also gave him a clear picture of how his herd was performing in the milking parlour – the rolling average yield is 9,479kg of milk at 3.66% butterfat and 3.25% protein.

With figures like these it's easy to see that, in the past, his breeding goal focused only on milk production: "But my cows were getting too big and they were not efficient. I need easy-to-manage cows, because we want to expand to 300 head at some point in the future. I also wanted to focus more on protein production, because we make our own cheese here on the farm."

Today has seen Niek switch from using stock bulls to using AI sires – this is safer and also allows him to tap into a wider genetic pool. He's now cross breeding, using Brown Swiss and Jersey sires, because this produces cows and heifers that are better suited to his system. "Fat and protein yield is higher, fertility is better and feed intakes are good too.

These cattle easily turn feed into milk and they last in the herd."

High production

Gerard and Geertje Heuthorst run their 110-cow herd in the Netherlands, their focus, to breed more efficient cows and heifers, is on high milk production. They use Inet, when selecting sires, to help them achieve this.

The couple has recently invested in a new barn, to improve cow comfort and also because they have plans to expand to 180 milkers.

"We think that land is just too expensive in The Netherlands to justify running a low milk production system. For us, high yields are the way to go," says Gerard. "But we also want healthy and fertile cows and to breed cattle that last for a long time in the herd."

So, as well as Inet, the pair are also selecting bulls on SCC, hoof health and daughter fertility: "But we're always keeping a close eye on milk production," stresses Geertje. "And we only use the highest scoring InSire bulls."

They also use CRV's TalentScan to ensure that the best sire matches are made when serving heifers. "We're looking to breed top quality replacement heifers because we eventually want to increase herd size to 180 cows, using home-bred stock."

The whole herd is fed the same TMR ration. No additional concentrates are fed and the couple has found that 'persistent' cows with plenty of capacity to convert a lot of feed into milk have thrived on this system.

Feed efficiency is extremely important to them – they're looking for more milk from feed and certainly between 1.42 and 1.45 litres per kilogramme of feed. And they know that genetics and a short calving interval are key factors to help them achieve this. |

Table 1: Breeding goals and the key selection traits required to achieve them

breeding goal	main traits
production	Inet, kg milk, kg fat, kg protein, % fat & % protein
longevity	longevity
health	daughter fertility, udder health, hoof health, ketosis & calving ease
fertility	daughter fertility, sire conception rate
efficiency	kg fat & protein, longevity, feed intake, body weight, daughter fertility