Around 80% of fertility problems arise during the calving period

Get a better grip on fertility

Producers are paying closer attention to fertility – and it's paying off, according to dairy specialists. But producers can still do more to further improve herd fertility by focusing on the non-pregnant animals in their herds.

text **Alice Booij & Inge van Drie**

This summer's heat wave caused grass and maize to wither during the past few months. But the heat can also have a not-so-visible impact on herd fertility, according to CRV's vet and fertility expert Peter Vercauteren.

"Cows will get pregnant – fertilisation will occur – when under heat stress," he says, "But early embryonic death – up to four weeks after insemination – often results."

And, he adds, it will also be difficult to get the cows pregnant again. "During such a heat wave, the number of cows with ketosis increases and the quality of their oocytes deteriorates. So heat stress can affect cow fertility for up to four months after the event."

Calving interval

Despite the heat wave, Mr Vercauteren is positive about herd fertility. Calving interval in the Netherlands, for example, has fallen from 415 days in 2007 to 403 days in 2015.

"Producers are increasingly working on fertility. After all, a short calving interval means more profitability, a higher daily production and better feed efficiency."

But he says that there is still plenty of room for improvement and, in practice, he regularly works with herds that have a calving interval of 385 days.

"These producers often have extensive fertility guidance and are more alert. The number of lost, open days after calving is fewer."

It is mainly the larger and high yielding herds that score well for calving-interval and calving-to-first-insemination targets. "These producers begin insemination earlier and use protocols more often," says Mathijs van Pelt, who works at the Animal Evaluation Unit of Co-operative CRV. "They work closely with their vet for fertility guidance, with a more structured check of all calved cows and a protocol is in place, and followed, for cows that have not returned to heat or are not pregnant. These herds want to get a better grip on the calving interval and are taking an approach that works."

It is sensible to start insemination earlier, according to Mr Vercauteren. "For cows with a less than ideal body condition score, it is a good idea to wait. But otherwise you have to start inseminating between 35 and 40 days after calving."

Moment of insemination

A much-discussed topic is the moment of insemination. He says that 10 hours after the first signs of heat is still a good rule of thumb. "And check the defrosted temperature of the semen used. With conventional semen, the main concern is that it exceeds 25°C as quickly as possible. With a thawing temperature of 32°C, this works just as well as at 35°C or 37°C. With sexed semen it's different. The liquid for thawing must be exactly 37°C."

Embryonic mortality

Early embryonic mortality is the main cause of cows not becoming pregnant, according to CRV fertility adviser Peter Nauta. "Ten out of every 100 oocytes are not fertilised, 24 embryos die before day 21, six embryos die between day 21 and day 42, and five animals abort," he says.

So where does it go wrong? "It's often during the dry period and the first four weeks after calving. About 80% of fertility problems stem from that period."

If, for example, cows get too fat during the dry period or the producer builds up their concentrate ration too quickly, this can impact on fertility in the following lactation. Many cows, after calving, also get into a negative energy balance because feed intakes fail to meet their nutritional needs. A surplus of urea and rumen acidosis also have a negative effect on fertility.

Mr Nauta also suggests that producers should work hard to ensure that cows avoid stress both during and after calving. "Do not isolate cows around calving, keep the ration consistent and let the cows drink a lot – preferably lukewarm water."

He adds that stimulating intakes is also important. "Be sure to provide good quality forage, but be careful with concentrates and fast, digestible starches."

Non-pregnant cows

Keeping a close eye on the health of the cows is another point of interest. "Pay attention to hygiene when calving and check rumen fill," says Mr Nauta.

To improve herd fertility, it is also important that cows can 'show' their heat well. So he says that producers should ensure that cow houses are well lit.

"Ideally there should be at least 16 hours of light during the winter. And it's also important that cows have enough space to exhibit their natural oestrus behaviour. "So avoid overcrowding and tackle slippery floors. Good hoof, feet and leg health are all key here too."

Good management is vital to improving fertility, concludes Mr Nauta. "And my final tip is to focus on non-pregnant cows." |

Breeding's vital role in improving fertility

Good fertility is not only about management – breeding can also make a positive contribution to better herd fertility. And this is where fertility index comes into its own.

CRV Avoncroft offers several bulls that score well for daughter fertility (see Table 1). For example, Delta Reloader scores 104 for daughter fertility. So, what does that mean in practice?

His daughters have a calving interval that's almost seven days shorter than the average.

They also achieved a 2.9% higher non-return rate at 56 days after insemination.

Table 1: CRV Avoncroft bulls with high score for daughter fertility

sire name	fertility index
Peak Jerod Abel	106
Delta Bouncer	105
Flevo Genetics Whatsapp	105
Delta Reloader	104
Manders Dazzel	104