

Fertility is improving in the Netherlands – the figures of Dutch sires prove it

The only way is up

The Dutch are making tangible progress with regard to breeding for improved fertility and efforts in this area are reflected by the figures. The changes are still small, but the fertility indexes of Dutch proven sires are noticeably increasing and producers using them can look forward to higher non-return rates.

text Hans Siemes

Cows that won't become pregnant are a major source of frustration for producers. When a cow has been bred unsuccessfully two or three times, culling often is considered and it is among the top three reasons for culling. So it's clear why fertility is one of the most important areas demanding attention on many dairy units.

It is a complex issue, with various factors having an influence on the fertility of cows including management, nutrition and breeding. The influence of the latter appears to be small, but that's not accurate, according to CRV's Sander de Roos.

"The positive thing about breeding is that no further efforts are necessary. You make an improvement genetically and that's all. Good quality feed also contributes to fertility, but having to compensate for poor forages with other products will involve a lot of work and costs."

High fertility

Breeding offers possibilities. Consistent use of bulls with high fertility will definitely lead to considerable improvements, assures the genetic specialist. "That way you can make a lot of progress." Although, in the field you won't find many producers that breed exclusively for fertility. They take other aspects into consideration such as improving the protein content, udder health, and feet and legs. "Producers are looking for a bull with an optimal combination of these traits, but fertility certainly plays an important role."

Where fertility is concerned, there are

significant differences between bulls. Fertility in the Netherlands is based on calving interval and non-return percentage. It is important to look at both. For this reason they contribute equally to the fertility index. Breeding according to the fertility index is geared towards providing offspring that show timely heats and become pregnant after the first insemination.

Calving interval

The average calving interval in the Netherlands is 423 days. An index of 104 for calving interval, for example, means that on average the daughters have a calving interval that is 6.2 days shorter when compared to the daughters of a bull that has an index of 100. "There are bulls with an index of 108, but there are also some with 92. This translates into a difference of almost one month calving interval for the daughters of one bull compared to another," explains Mr de Roos.

The second aspect that impacts on fertility is the non-return percentage (NR56). The average in the Netherlands is 67%. This means that two thirds of the cows that were inseminated once have not been re-bred within 56 days. The differences between bulls are significant. The daughters of a bull with an index of 108 have a non-return percentage of 73%, while for the daughters of a 92 indexed bull will be 61% on average.

A third aspect to consider is the difference in semen quality from one bull to the next. This is indicated via the figure 'bull fertility', with numbers ranging from -4 to +4. Bulls with -4



Sander de Roos: "The fertility of bulls is certainly not declining"

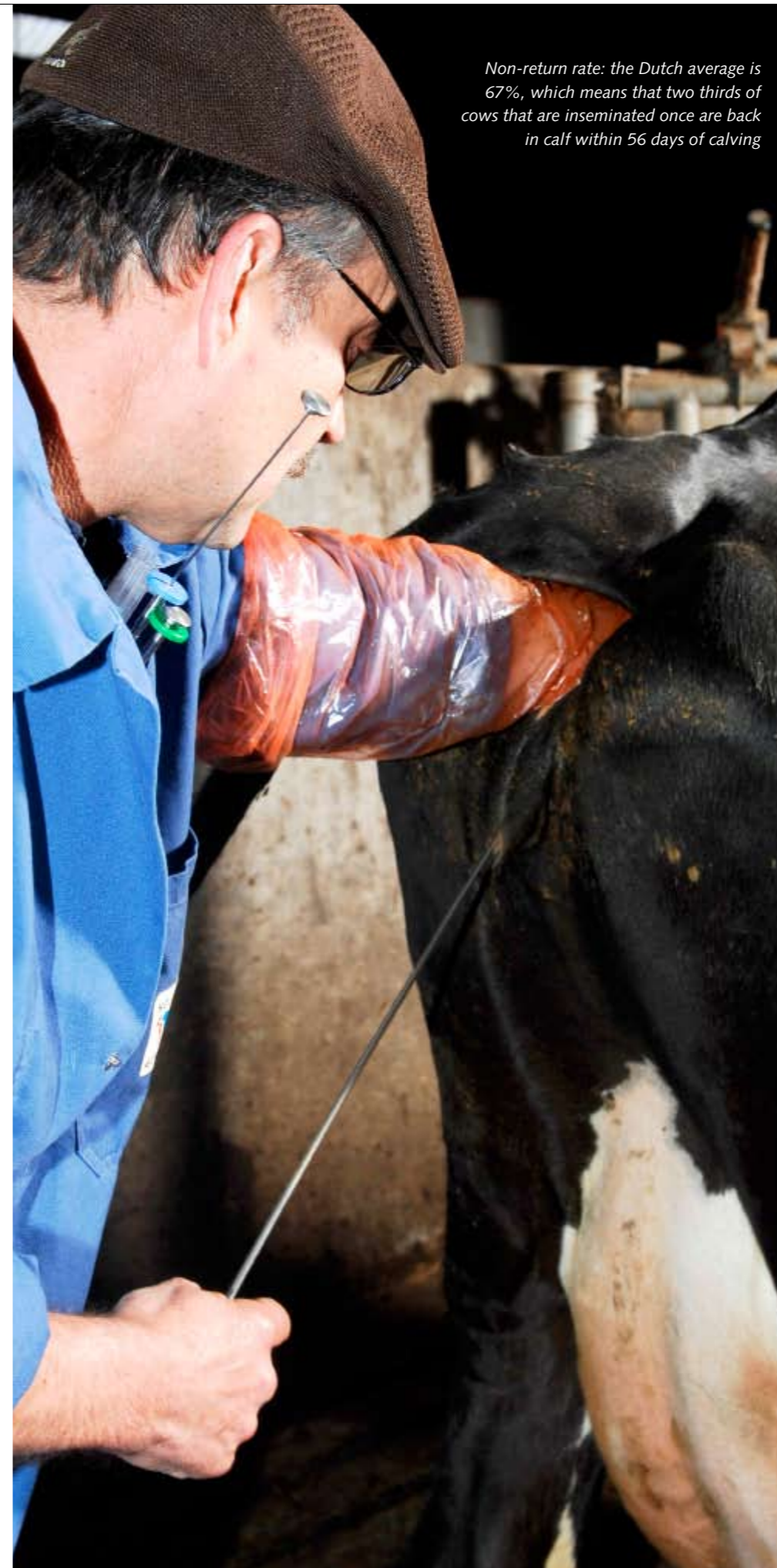
fertility have a non return of 63% and bulls with +4 fertility have an average of 71% non return. This provides another opportunity for producers to influence fertility by way of bull selection.

Breeding programme

For the past 10 years the Dutch have been intensively working on improving fertility. In 2000 this trait was added to the sire index for the first time and this also allowed fertility to play a more influential role in the breeding programme, which previously primarily focused on net milk revenue (milk production figures) and type qualities. Together with longevity and udder health, fertility was also included in the index. There was ample reason for this, because there was a clear change for the worse. A result of the strong focus on milk production in Holstein Friesian breeding was a negative impact on fertility. "We have to put an end to that," was the response of the Dutch dairy industry. The inclusion of an index for fertility in the total index was helpful. For bulls born after 2000, the decline did not continue and the index for fertility stabilised.

With the introduction of the current index (the NVI) in 2007, fertility was given a much heavier weighting in the sire index. This meant that bulls with poor scores for fertility were 'punished' in the NVI and vice versa. One point higher or lower in the fertility index immediately translates into seven NVI points. The effect of the heavier weighting for fertility is notable. "After a stabilising phase, we now see an increase. And the new bulls that are still in the pipeline on average are showing again higher scores for this index," explains Mr de Roos.

What's remarkable is that the improvement is connected with progress



Non-return rate: the Dutch average is 67%, which means that two thirds of cows that are inseminated once are back in calf within 56 days of calving

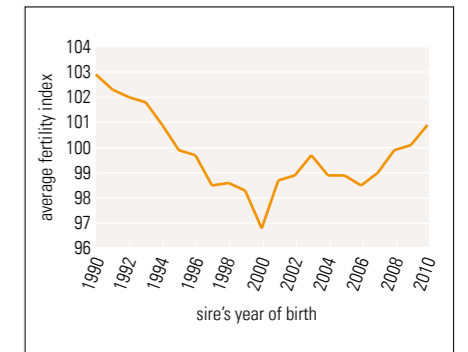


Figure 1: The fertility index of Dutch sires dropped during the 1990s (source: CRV)

in the area of milk production and components, even though production and fertility tend to impact one another negatively. Producers are picking up on this and are now taking fertility into account when selecting bulls – much more so than in the past.

International gains

Due to the greater emphasis on fertility in breeding, the Netherlands has made gains internationally.

"There are countries where the non-return percentage is below 50%. Those countries are behind us. There are also countries, however, where fertility is even more important than in the Netherlands, for example when they have a seasonal calving system," adds CRV's breeding specialist.

He refers to the official sire line up with the best bulls from all countries. "If you look at the highest bulls for fertility, the Netherlands is well represented, with 20 bulls in the top 100, including bulls like Fiction and the young sire Award."

Important theme

In coming years, fertility will remain an important theme. This not only involves monitoring breeding developments but also improving the bulls' semen quality. This is high on the agenda. "A lot has happened in that area in recent years. We are doing everything possible to continuously improve that quality in the lab. All protocols are closely followed and for each bull we are striving for the optimal concentration of semen. The fertility of bulls has been constant during the past few years and is certainly not declining," says Mr de Roos.

He believes that improvements can also be expected from the latest technological gadgets and management information. In the area of cattle husbandry significant developments lie ahead. |