

The breeders choice: Fresh or frozen? Licensed or unlicensed?

Ane Visser, MSc.

Dutch Horses Unlimited, Ltd
93 Tangimoana Beach Road
RD3 Palmerston North
www.DutchHorsesUnlimited.com

How do we breed a champion? Its a question many people will ask themselves when they need to make a breeding decision for the coming season. The first issue that needs to be addressed is: in what discipline? Do we want to breed a dressage horse, a show jumper or an eventer? In other words, we need to define our breeding objective. Of course, the mare is the starting point, and if you want to breed a dressage horse from a mare with primarily a talent for show jumping, or vice versa, you may not be taking advantage of what you already have. However, many mares have a talent for more than one discipline, which makes it easier to decide in which direction you want to go.



Figure 1. Frozen semen

Once you know what your goal is, the next decision is which stallion are you

going to use? In the past, the number of available stallions was limited, but today there is more choice, which requires breeders to think through their decision more carefully.

First, the number of imported stallions has grown, and secondly there is imported semen available from overseas stallions. Popular trends suggest that you might be better off using semen from overseas stallions. In many cases the price of frozen semen from a stallion licensed by his respective studbook, is approximately the same as the price of fresh semen from imported stallions, who generally aren't licensed in their country of origin. The underlying assumption is that licensed stallions are always better than those who are not, and consequently you might be better off using frozen semen from a licensed overseas stallion. However, the pregnancy rates to frozen semen are generally lower than fresh semen, simply because the life span of sperm is shorter after thawing, and thus the timing of insemination is much more critical than with fresh semen. Unless you send your mare to a specialized centre where they can time the insemination accurately to the stage of maturity of the follicle, chances are that it will be more difficult to get your

mare pregnant, and hence you may be faced with a higher breeding cost. Even if we take the cost of breeding out of the equation, and assume that the same pregnancy rates can be obtained with fresh and frozen semen (which is true if you send your mare to the specialists), it is still debatable that licensed stallions are better than unlicensed ones.

The important question becomes: how do we identify a good stallion? If we don't know the stallion (which is usually the case when using frozen semen), then we have to rely on the information published by the owner. This often includes information about which competitions the stallion has won. But if a stallion has won an international competition, what does that really mean? Did he have a good rider, did the competitors have a bad day, were strong combinations to compete with absent? Or did he win regardless of having a poor rider or strong competition?

The studbooks tend to publish more independent information, as they don't have a direct interest in promoting a specific stallion. For many years, the KWPN (Royal Dutch Warmblood Studbook) have published breeding values for stallions. The important numbers are the 'dressage index' and the 'show jumping index'. Every year, the performance of offspring of all stallions in the population is compared, and (statistically) adjusted for effects like rider, stable and competing combinations. A very complex calculation unravels the genetic quality of individual licensed stallions and summarizes this as a number. An index

of 100 is defined as the population average, an index above 100 means the stallion has a higher than average ability for that discipline, a value below 100 means he has a below average ability (in genetic terms). In other words, the higher the number, the better the stallion.



Figure 2. Preparation of a dose of fresh semen.

Stallions are approved for entry into KWPN at an early age (3.5 years), based on tests that have a predictive value for these traits. When they have offspring who are competing, the true value for dressage and show jumping ability emerges, as that information is incorporated into the index. Some stallions are approved based on their own performance in international sport, without having any reliable information from offspring and without a further testing process. For those stallions also, the more reliable information comes when their offspring start performing. Of course few licensed stallions achieve a very high index for either dressage or show jumping, and an even smaller number achieves that for both. There is also a proportion of approved stallions who get values below 100. So if these

stallions are used, they lower the average genetic ability of the population, and are in fact undesirable. However, once they are approved the licenses are not withdrawn. The idea of breeding is to identify 'good' stallions for production of the next generation. The higher the index for dressage or show jumping ability, the better the next generation will be. Of course, there is never a guarantee that you will breed a champion, but using the stallions with high indexes for dressage and/or show jumping certainly increase the odds that you will. Evidence comes from today's stallions that have high breeding values having in their pedigree yesterday's sires with high breeding values. There are very few high-ranking stallions that were by low-ranking sires.



Figure 3. Semen freezing and storage facilities at Stal Eurocommerce in the Netherlands.



Figure 4. Insemination with fresh semen.

Therefore, the use of frozen semen from a registered stallion (in other studbooks), is not a guarantee that you are using a good overseas breeding stallion. There are examples of stallions with a KWPN breeding value below 100, which is undesirable, available by frozen semen. It is those with a high breeding index which should be used. This doesn't rule out a stallion that has not gone through the licensing process which is expensive. He can in theory be one of the best stallions around, he just hasn't gone through the process of selection and testing. If you want to improve the next generation, it is important that you know how to select the stallion to meet that goal. So, using frozen semen is a good choice when you are aware of the quality of the selected stallion. If you want to use fresh semen then look at the pedigree of the stallion, know his expected breeding value and make sure that he improves your mare at the points where you want to see improvement. Be aware that a price comparison only, can be very deceiving.

About the author

Responsible for the formation and running of Dutch Horses Unlimited, alongside his wife, horse trainer and instructor Nicole Bours. Ane Visser's extensive experience in setting up breeding programmes for horses has gained a high visibility in The Netherlands. Now in New Zealand, he hopes to contribute to the genetic progress in the population of NZ sport horses. To this end, he and his wife have imported their breeding stock into NZ.