

White:

It Cannot be Eliminated, but can be Kept at a Low Percentage

by Henny Siebel

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Translated for THE FRIESIAN by Anneke van den Ijssel - frisian@earthlink.net

The percentage of white in our Friesian horses has gone down significantly over the last century as a result of the selection process. But the downward trend now seems to have come to an end. Complete elimination of white is utopia, but we can keep the percentage low. This declaration is according to Leonie Evink, student of animal management at the Van Hall Institute in Leeuwarden. She researched the fear of every Friesian breeder: white markings. Her report is now at the FPS office. Studbook Director, Ids Hellinga - who is asked many questions at breeding meetings about the white factor - is happy with the report. In addition, it is the intent of the FPS to conduct additional research. It should be possible to locate the white carrying gene(s) at the DNA level.

HEREDITY

Leonie Evink is very certain in her conclusions: completely eradicating white is not possible, but keeping the percentage low by further selection is. To speed up lowering the number of Friesian horses with white markings, we would need better information about the genetic predisposition of breeding stallions with regard to white markings, states Evink in her conclusions. She sees two possibilities for obtaining this information. The first one is a breeding value estimate on the basis of phenotypical observations (genetic predisposition and the influence of surroundings) of the offspring. The second one is trying to locate the genes (or markers for genes) that are responsible for the white markings. The latter is difficult, says Evink, because it is plausible that the markings are determined by more than one gene.

ALLOWED

The best solution will most likely not be attainable, says the researcher. In that scenario, all Friesians with a white marking would not be entered into the studbook. This way, mares with allowed markings would automatically not be bred for the studbook. Yet, Evink does not expect that even this solution would result in white markings completely disappearing, although the number with white would decrease.

The Friesian horse and black go together. Everybody thinks it has been this way for centuries, but this is not true. It is fiction that the Friesian has been jet black since 1879. Sixty years ago there were still brown Friesians. Seventy years ago they were even still being entered into the studbook. Even grays existed

(and sometimes they are still born), as well as chestnut horses. Until 1930, markings on the legs was even accepted. Until 1960, these horses were entered into the Bij-Book (B-Book).

After 1960 the regulations changed. Our present rules are clear: the only white allowed is on the forehead. This marking can be some white hairs (*enige witte haren/ EWH*) or a star on the forehead, or some grey hairs on the upper or lower lip. The white feet that were allowed until 1970 are now absolutely out of the question.

REGISTERED

Evink's research does show that since 1900 the percentage of white in registered foals went down from 28% in 1900 to 5% in 2003. If this continues, she expects that in 2010 three to four percent of the foals will have white markings. This only concerns the registered foals, however. No one knows how many foals with disallowed white are not presented to the studbook and are thus not registered. Evink's research shows that the percentage of allowed white is still going down in the registered population. The percentage of disallowed white is also going down. The latter is only 1% of the registered population. We can conclude that there are few Friesian horses with disallowed white markings, Evink writes. Most markings are some shape of a star (allowed for mares). EWH (some white hairs) is often mentioned on the studbook papers. We also come across white coronet bands, white hoofs, white feet, markings on the scrotum, white soles, a mark on the muzzle, and white spots on the back or the croup. If you look around, you may have seen it all. Evink found that almost half of all white markings are located on the forehead. As long as that is allowed, it's a hopeful finding.

Evink's findings on stallions and their heredity are sensitive information. "If the breeder has a mare that is already susceptible to white he/she is better off not using certain stallions," she writes. That seems obvious, but in practice many breeders do not include white as a risk factor. They want this or that stallion and whether he scores high or low on the white list does not matter to them. Evink thinks that during the first two years after a stallion starts breeding, the percentage of white immediately needs to be determined. At that time, a clear pattern can be detected. There are stallions who are no longer alive or do not breed anymore, such as Laes, Adel, Doeke, Walter and

Diedert. At the time of counting, Adel had 121 descendants with allowed markings and 11 with disallowed markings on a total of 763. But Adel also served 8.8% mares with white markings. That does have an effect on the numbers. Laes's percentage was just as high while he served far fewer mares with white. Doeke also has quite a few descendants with markings. There aren't as many from Diedert and Meier, although it was often talked about that the two stallions passed on so much white.

SEPARATION

Evink also makes a separation in her research between what is passed on by mares that are black, mares that have white markings, stallions that normally pass on white, and stallions that highly pass it on, especially when they are paired with mares that have white. The best situation for a stallion is a low percentage of descendants with markings, combined with a high percentage of mares bred that do have white markings. Marten, in this case, turns out to be successful. He only produces 1.3% offspring with markings, while over 10% of the mares he bred had a marking. His half brother, Sibald, only has one registered descendant with a marking, while over 5% of the mares he bred had white. Usually, the stallions are blamed, but do not underestimate the influence of the mares. Evink did several calculations and the indexes read like a detective novel, because everyone, of course, wants to know 'who dunnit.'

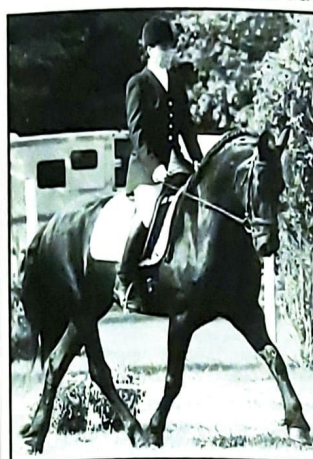
COMPLICATED

To make matters even more complicated, breeders carefully study the official numbers published annually by the studbook on the stallions and the white they pass on. When a stallion does not pass on any white (apart from the foals that were not registered, and for which there is no information) many breeders will then take a mare to that stallion. The consequence is that, a year later, all of a sudden there is offspring with markings. The chance of markings with mares that already have markings is larger. Statistics can thus reverse results. There is much to be discussed about white. The fact is that research has been done which the FPS breeding department can use in its meetings. The current inventory of findings clearly shows the FPS is not sitting back and waiting for new developments. They have already requested research into dwarf births with the University of Utrecht. The University of Wageningen has started to chart the inbreeding potentials. As you may know, the Universities of Wageningen and Utrecht are cooperating to combat mane and tail eczema.



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