The Exterior of The Friesian Horse is Getting Better

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An Analysis of the Exterior Genetic Trend

In the breeding, it is important to understand the results of the applied breeding policy of a studbook. In other words, speaking in terms of the breeding goal characteristics, is the Friesian horse on the rise? To make such an evaluation, it is necessary to have an objective quantity that can be used to measure the genetic improvement. The breeding values are an important tool in this evaluation; an analysis of the exterior of the Friesian horse in the last ten years.

A Standard for Progress

One of the topics among Friesian aficionados is the question if today's horses are better or worse than they used to be. A difficult discussion, because we can't compare horses from different periods with each other just like that. Misconceptions about the pros and cons of the exterior often arise because we use the wrong information when we make the comparison. Numbers that are often used for this purpose, but don't give an accurate picture, are features such as the percentage (or the amount) of star mares per year, the number of model mares per year, etc.

Because the demands to become star or model are getting progressively more difficult, they can't be used to depict the development of the quality of the exterior in the population. The same is true for the linear and evaluating scores for exterior. A 7 for walk in 1998 is not per definition, as good as a 7 for walk in 2003. After all, we're talking about a rather subjective observation. Speaking in terms of the linear scores, our general goal is that we strive to keep the score of 25 as the average per year.

If we want to come to a conclusion about the development of the exterior, it is imperative to use an objective measurement. The best way to get an insight into the development of the exterior over the years is by comparing the breeding values of horses per year. In the breeding-value estimates, we make corrections for subjective and non-genetic factors, which permits us to make an objective comparison of the (genetic) qualities of horses.

Genetic Trend

In the April 2003 issue of the Phryso, the breeding-value estimates for evaluating exterior characteristics were introduced. It also made available the breeding values of the active Studbook stallions. As a matter of fact, we estimate the breeding values of all the inspected horses, mares as well as stallions. In these breeding values we include information about the parents, their own individual exterior scores and the exterior information of their offspring. By taking the average of the breeding values of all horses per year, we can establish the course of the breeding values of many years. In the breeding we call this course the genetic trend.

Diagram nr. 1 depicts the genetic trend of the 5 lower row characteristics of the last ten years. The diagram shows an unmistakably upward trend, which is about equal for all 5 characteristics. The feature "trot" has accomplished the largest improvement. This is because the gaits weigh heaviest in the evaluation and selection of animals. Moreover, the trot has a higher hereditary degree than the walk (the differences that have been observed between horses is for a larger part genetic in trot than in walk), which accelerates the success in the selection. In all likelihood we may assume that the genetic progress from today can be attributed in particular to the stallion selection. Because of the huge growth of the population the contribution through mare selection is relatively small.

Less Progress for Linear Characteristics

Genetic trends for the linear (describing) characteristics can be determined as well. Chart nr. 1 shows the average breeding values for all the inspected horses from the year 1999. On the whole, it is rather remarkable that the linear characteristics show less progress than the lower row characteristics (compare with diagram nr. 1). This can be explained by the fact that at the selection, the evaluating features play a larger role than the describing features. Nevertheless, the linear characteristics show a favorable development in the population as well.

The features that show the largest progress are the characteristics related to movement, such as expression of walk.

EXTERIOR BETTER, cont.

rhythm of trot and expression of movement; features that have a strong connection with the walk and trot characteristics of the lower row.

It will be valuable to analyze the optimum features as well. The numbers show that the form of croup and hind leg have stayed about the same in the previous ten years, the formation of the front leg developed towards a more stretched-out position (due to the increasing influence of the Feitse-blood) and that the correctness of the walk has a slight tendency toward "toes-out."

Fingers on the Pulse

Obviously it is a form of looking back, when we analyze these trends and we must ask ourselves what the value of these trends is for the breeding of the Friesian horse. Foremost, the analysis of the genetic trends is important to evaluate the effect of the actual breeding policy. In other words, did the strategy achieve the result we desired? The policy can be adjusted on the basis of the information we collect. This is especially important since the exterior isn't the only feature of the breeding goal.

Now that the Friesian horse is becoming a sport horse, more and more, the relevant characteristics will get more attention in the breeding. With the help of the genetic trends, we can keep a finger on the pulse, with regard to the effect this will have on the exterior. Eventually this will lead to a policy that will attach the utmost importance to the various breeding goal characteristics. To facilitate this, the information about sport and ability tests will have to be submitted to a genetic analysis, which will lead to breeding values. An analysis that has provided valuable breeding information for the exterior already.

Chart nr.1
Average breeding values for the linear characteristics of horses born in 1999

Characteristic	Average breeding value
Expression of head	100.6
Head-neck connection	100.5
Position of neck	101.4
Position of shoulder	101.1
Form of back	100.6
Width of loins	100.5
Form of croup	100.2
Length of croup	100.9
Length of buttock muscle	101.5
Length of forearm	100.6
Formation of front leg	99.2
Form of hind leg	100.0
Length of pastern	100.1
Form of hoof	100.3
Quality of legs	100.8
Correctness of walk	100.8
Length of walk	100.9
Expression of walk	100.6
Rhythm of trot	102.2
Expression of movement	102.3
Color	100.6
Mane, tail and fetlocks	100.8

Diagram nr. 1 Genetic trend for the evaluating features