

## Acceptance of Myler bits from the Netherlands

### **Summary:**

#### **Study on the effect of the Myler bit on the welfare of the horse during riding**

A study on the effect of the Myler bit on the welfare of the horse, has been carried out by HAS Kennis Transfer in association with HAS Den Bosch, Wageningen UR and NHB Deurne. As a consequence of the growing discussions on horse welfare Brokx Sport BV (Raamsdonksveer) has assigned HAS Kennis Transfer to study the effect of using the Myler-bit (phase 2 and 3) on the welfare of horses during riding. In practice, Myler-bit users were positive about performance and welfare aspects, therefore the following question was formulated: “Does the Myler-bit has a positive effect on the welfare of horses during riding, under the condition of equal performances?”

Fifteen horses have been trained during three weeks alternatively using the Myler-bit and the regular bit. The definite test consisted of two dressage tests: one with the Myler-bit and one with the regular bit. During these dressage tests variables related to welfare and performance criteria have been measures. The welfare variables used were: heart rate variability (HRV), quantity of produced saliva, frequency of opening the mouth, on or off the bit positions, head-neck posture and the tongue color. Heart rate variability is the only one variable that has been validated scientifically to, in combination with other (behaviour) measures, indicate the level of stress. The performance has been assessed by three experienced jury members during the dressage tests. The average score for the test has been considered as the final performance variable.

For the analyses of the heart rate variability (HRV), the dressage tests have been subdivided in three time periods: (1) mainly paces sideways, (2) extended walk and canter and (3) walking backward and canter. The results showed that horses ridden with the Myler-bit have a significantly higher heart rate variability during the second time period (extended walk and canter) compared to horses ridden with the regular bit ( $P = 0.03$ ). Hence, it is assumed that horses ridden with the Myler-bit experience less suppression of the parasympathetic activity of the autonomic nervous systems which is responsible for the maintenance functions of the horse. In general it is assumed that a higher heart rate variability indicates a lower level (or absence) of stress.

Moreover, there was a significant difference of the quantity of foam around the mouth of the horses riding the two bits. A large amount of foam around the mouth might indicate that horses are unable to swallow saliva sufficiently. In this research 33% of the horses had less foam around the mouth and are thought to experience less discomfort during swallowing saliva.

Furthermore results show that horses ridden with the regular bit showed significantly more (vertical) fluctuations in the head-neck movements compared to horses ridden with the Myler-bit ( $P = 0.03$ ). These latter horses seem to be more comfortable and do not try to avoid bit pressure. Possibly, this is the consequence of a better communication between rider and horse using the Myler-bit.

The remaining variables did not show a significant difference between the Myler-bit and the regular bit. The final performances of horses riding the Myler-bit or the regular bit did not show a significant difference. Hence, there was not positive or negative effect found for the performance of horses ridden with a Myler-bit.

On the basis of the results of this study it can be concluded that Myler-bit has presumably a positive effect on the welfare of the ridden horse, with an equal level of performance. However, the results of this study should be interpreted with care since not all variables, which relate to stress and conflict behaviour, have been validated as such. Validation of these variables is warranted.

18th October 2007

Wageningen UR, HAS Den Bosch, NHB Deume”

Because of a positive conclusion, The Royal Dutch Equestrian Federation has decided that from the 1st of April 2008, riders are allowed to use Myler bits during shows. In fact the 02, 03, 04, 05, 06, 09, 32, 33 and 36 mouthpieces are allowed.