

## **7. Summary: A study of stereotypic walking in domestic horses**

In this investigation 17 horses which show stereotypic walking, were observed directly during one week in summer and one week in winter. The daily observation started just before feeding in the morning and ended when there was no activity in the stable in the evening. Additional data from altogether 61 horses were raised by questionnaire. The aim of the study was to describe the stereotypic behaviour and to receive indications about environmental factors effecting the behaviour as well as causes of the stereotypy.

The postal questionnaire that was sent to riding-, breeding- and racing-stables in the region Berlin-Brandenburg at the beginning of the study obtained a resonance of 41,2%. Additionally owners of box-walking horses contacted the author after the publication of two magazine articles and the presentation of the project in the Internet. Altogether a prevalence of 1,3% could be determined for stereotypic walking.

Stereotypic walking takes place along a straight or circular route, the former being observed more frequently. Usually the horses turn to the fence when changing the walking direction, the head being more or less turned toward the fence. In the box the horses wind themselves to a certain extent back and forth. The observed horses showed stall-circling predominantly in clockwise direction. Completely calm walking could be observed as well as nervous and excited pacing. A diversion, although brief, by external attractions during the execution of the stereotypy could be observed. Only with 41,2% of the horses stereotypic walking actually takes place only in the box. Therefore the term 'box-walking' is regarded as unsuitable for the behaviour disturbance. Instead the term 'stereotypic walking' is proposed.

For all horses the portion of the behaviour disturbance of the total observed time hardly differs between the winter and the summer observation period. In some cases the portion of the stereotypy of the time budget was higher in summer, in others during the winter observation. A maximum of the stereotypic activity is registered in winter in the afternoon, when most activity in the stable prevails. A second peak can be observed in the morning, at the time when the horses are brought on the paddock or the pasture and when stable work takes place. During the summer observation the maximum of stereotypic activity is in the morning. There is another rise in the afternoon which is lower, however, than in winter.

In this study a correlation between the occurrence of stereotypy and the race of the horses could be shown. The prevalence of stereotypic walking was higher in Thoroughbred horses than in ponies. Questions about the character and temperament of the animals resulted, however, in no indication for a predisposition for the development of stereotypy. The portion of stallions among the stereotypic animals appears very high. An increased occurrence of stereotypic walking for specific utilizations of the horses could not be determined. Likewise no accumulation within a certain age range could be found. The number of horses on the yard as well as the quantity of fed hay had no effect on the incidence of the abnormal

behaviour, either. A vast majority of the affected horses has access to a paddock and/or a pasture.

With over 60% of the horses the beginning of stereotypic walking could not be determined. For the remaining animals the first time in stable, weaning, the beginning of the training, the separation from grazing pals or a stable change were indicated as a cause. Beside this in several horses the stereotypy started during a longer period when the horse had to stay in the box.

Altogether 24% of the registered stereotypic activities (stereotypic walking and/or weaving) were related to an environmental event. In the remaining cases a connection was only to be assumed. A factor related to the prevalence of abnormal behaviour in all horses could not be found. Stereotypic walking arose particularly in situations that are connected with a high level of arousal for the horse, like the appearance of the owner, general unrest in the stable, feeding or taking horses out of the stable.

The effectiveness of changes in the management for the therapy of the behaviour disturbance could not be judged clearly. A medicinal therapy was conducted with none of the animals. Preventing the movement by tying up led only in one case to a reduction of the stereotypy, no horse began to weave. In all horses the stereotypy was generally very hard or impossible to influence.

With the eight animals whose behaviour disturbance, according to statements of the owners, led to damage to the animal, one must assume a disturbed well-being of the animals. In all other respects the stereotypy can be seen as a pattern which helps the animal to cope with an environment which is or was not optimal for the animal. Therefore an animal should not be prevented from the execution of the stereotypy as long as no damage develops, in order to avoid further motivation conflicts. One should try, however, to reduce stereotypy by changes in the management that are individually matched to causes that have been determined.