Research program IZS VE 06/16

Non-invasive methods for evaluating stress response to transportation in horses reared for meat production and in sport horses

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Horses are commonly exploited for a variety of uses: sports, working activities and meat production. The different conditions may cause a variable degree of acute and chronic stress; thus non-invasive and easily applicable methods are strongly demanded for welfare assessment. Cortisol release has been widely investigated, by taking blood and saliva samples before and after an acute stressor is applied. However, blood sampling is an ethically questionable procedure, as alternatives are available. Recently, non-invasive analyses methods on faeces and hair have been developed, giving indication for sub-acute and chronic stress. Moreover, the Animal Welfare Indicators (AWIN) project developed a practical welfare assessment protocol for horses, accounting for the collection of behavioural and physical indicators in different housing conditions, to be used to assess how animals are affected by external factors.

The project mainly aims at:
1. Developing innovative methods for quantifying:
   a. Cortisol metabolites from faeces
   b. Cortisol from faeces
   c. Cortisol from hair
2. Applying a comparative approach (both behavioural and physiological) for assessing:
   a. Acute/subacute stress due to transportation (towards an equestrian show in accustomed sport horses, and to the abattoir in unaccustomed and unbroken meat horses)
   b. Chronic stress due to a period of intensive training in sport horses