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Behaviour of stabled horses when presented with different odours

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Traditionally horsemen have used odours to attract, repel and calm horses, and therefore a knowledge of horse preference for certain odours has potential value in horse management. This study investigates the behaviour of horses when presented with 11 test substances of herbal or animal origin and one odourless control.

A total of 40 horses (26 geldings, 12 mares and two stallions) from four yards were subjects in this study. They were of various breeds and sizes with an age range of five to 24 years. The test substances used in the study were aniseed oil, ground coriander seeds, whole cumin seeds, dried curryplant, ground ginger, dried lemon balm, orange oil, dried sage and dried faeces from potbellied pig, tiger and maned wolf. Cotton wool pleat served as the control. The horses experienced a maximum of six different odours on each test day, two odours were simultaneously presented in a randomised order according to a Latin square design with a minimum period of five minutes between sample pairs. During the trial the horse remained in its normal stable. Two cotton bags containing different test substances were positioned on each side of the door while the horse was held at the back of the box. The horse was then released and its reactions to the test substances were recorded on video for the next 90 seconds. Behavioural elements were subsequently extracted by continuous focal sampling using the Observer v. 3.0 package. data were analysed using Wilcoxon Signed Ranks test.

The horses showed "Interest" by directing the gaze and the nose towards the bag with the test substance within a max. distance of approximately 40cm. They also performed investigative and manipulative behaviours e.g. sniffing, touching, licking and biting. All test substances except aniseed oil elicited Interest of a significantly longer duration than the control ($z<-2.51$, $p<0.05$). The latency to approach the control was significantly higher than to coriander, cumin, orange oil, sage, ginger and maned wolf faeces ($z<-2.17$, $p<0.05$). Licking and biting were not observed towards the control. interest in coriander and ginger was of significantly longer duration than in the rest of the herbs ($z<-2.10$, $p<0.05$) and the frequency of sniffing them was significantly higher than for the control, aniseed oil, curryplant, lemon balm and orange oil ($z<-2.21$, $p<0.05$). The licking of ginger and coriander was significantly more frequent than of sage or curryplant ($z<-2.02$, $p<0.05$). Coriander, lemon balm, sage and ginger had a significantly shorter contact latency than the control and tiger and maned wolf faeces ($z<-2.03$, $p<0.05$). The duration of tactile contact was significantly longer ($z<-2.09$, $p<0.05$) for ginger, lemon balm, cumin and coriander than for the control, orange oil, tiger and maned wolf faeces. The duration of Interest in and the sniffing frequency of the faeces samples were significantly higher than for the control and aniseed oil (interest: $z<-3.30$, $p<0.005$; sniffing: $z<-3.95$, $p<0.001$). The faeces samples initiated less tactile exploration, licking was not observed with any of the samples and biting not with the tiger and maned wolf faeces.

The limited interest in the control suggests that the horses were attracting to the test odours and not just responding to the visual stimulus of the bag. The latency to approach the test substances was more dependent on the individual horse than the odour. the faeces samples were of interest to the horses, but they did not induce tactile manipulation and a higher latency and shorter duration of contact was recorded. the contact parameters appear to distinguish between pleasant and unpleasant smells, and based on these coriander and ginger were the preferable odours.