

Objective: To determine whether application of the HorseScents lavender noseband produces an autonomic relaxation response in horses similar to that reported in a previous study using a lavender vaporizer (Baldwin AL and Chea I. Effect of aromatherapy on equine heart rate variability. *Journal of Equine Veterinary Science*, 68: 46-50, 2018).

Eight horses, from a wide range of breeds, were selected from Willow Woods barn where I keep my horse. The criterion for choice was verbal consent of owner.

Name	Sex	Age (years)	Breed
Major	G	19	American Quarterhorse
Remi	G	20	Appaloosa/ American Paint cross
Nabucco	G	18	Belgian Warmblood
Dewie	G	21	Thoroughbred
Brio	G	18	Pinto/Andalusian
Ely	G	17	Dutch Warmblood
Cantante	G	12	Lusitano
Leica	M	17	Oldenberg

For measurement, each horse was haltered and fitted with a heart rate monitor around the girth (Polar Equine RS800CX Science). A HorseScents noseband attachment (ScentStrap) without the lavender ScentSac was fastened to the halter. The horse was led into a round pen and heart rate was measured for 7 minutes. The horse was free to walk within the pen if it chose. Then the ScentSac was secured to the ScentStrap (after squeezing the ScentSac to activate it) and heart rate was measured for another 14 minutes. The next day the same horse was selected at the same time of day and the experiment was repeated except that both heart rate readings were made WITHOUT the ScentSac.

Results: Similar to the previous study, the lavender did not reduce heart rate, but the parasympathetic (relaxation) component of heart rate variability was significantly increased.

In the previous study, this result was shown by an increase in the parameter RMSSD (root mean square of successive differences) meaning that the heart rate changed rapidly from beat to beat. This response is caused by the action of parasympathetic nerves that cause relaxation. In the noseband study, RMSSD only increased in four of the eight horses, but another parameter, that also reflects the relaxation response, did increase in six of the eight horses. This other parameter

(%HF) reflects the high frequency parasympathetic component of heart rate variability, similar to RMSSD. In this case, %HF was statistically significantly increased, on average, after 14 minutes of lavender:

%HF baseline = 6.14 % \pm 2.23 (SEM)

%HF during second 7 minutes of lavender = 10.24 % \pm 3.51 (SEM)

P<0.05

This means that there is a less than 5% probability that this result could happen by chance.

No statistical significance was found when the lavender ScentSac was NOT added to the noseband:

%HF baseline = 7.02 % \pm 1.68 (SEM)

%HF during second 7 minutes of NO lavender = 9.39 % \pm 3.80 (SEM)

P=0.945

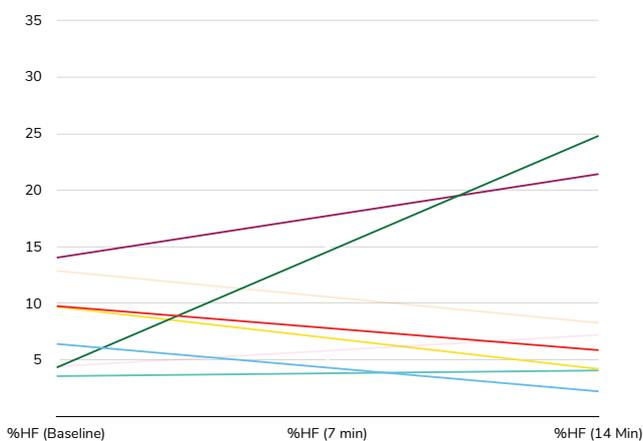
This means that there is a 95% probability that this result could happen by chance.

ONE SENTENCE SUMMARY:

The HorseScents lavender noseband caused a significant relaxation response within 14 minutes, as measured by increased beat-to-beat changes in heart rhythm (greater adaptability), in 6 out of 8 horses of varying breeds.

Average Trends of Study Data

Without ScentStrap



With ScentStrap

