

## **An observational study into the condition of horses at a professional show jumping stable, using a Horse Power Unit (HPU) water treatment system.**

The developers of the HPU water system for the equine industry, requested an independent observational study into the effects of the HPU on conditions of horses. MatureDevelopment BV, specialized in R&D and innovation in natural sciences, was approached to perform this study. A high performance show horse stable in The Netherlands was interested to facilitate and assist. In this study horses were observed according to a set of parameters. The parameters were designed by MatureDevelopment, based on experiences in isolated pre study observations of equine professionals and in close cooperation with the experienced owner who has assessed, selected and trained show jumping horses for many years. The owner was the observer using the parameters he agreed upon.

This report is based on three observed parameters:

1. The air quality, assessed by the smell of manure.
2. The condition of the horse coat, assessed by visible observation and physical performance.
3. The water balance of the horse, assessed by the in the equine industry accepted test of the elasticity of the skin at the neck of the horse. Measured by the elongation of the stretched skin and the extent to which the skin goes to the original position after relaxation.

After observing and assessing the horses within the parameters to define a reference base, the HPU developer installed and activated the new HPU water treatment system in the tap water infrastructure under close control of the stable owner. After activation of the system, the horses were assessed during the week and ranked within the parameter range, every week. After a 4 week pilot results were analysed on significant changes. The parameters showed undisputable changes. No negative effects on the horses performance were observed.

Conclusion: using a Horse Power Unit (HPU) in a stable shows after 4 weeks:

1. Disappearance of (ammonia) manure smell.
2. Increased shine of the coat, including an enhanced dirt and dust-resistance of the coat.
3. Enhanced improvements of elasticity of the skin, perceived as a sign of improved water balance.

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