



TOXIC
HAIR ANALYSIS
FOR HORSES

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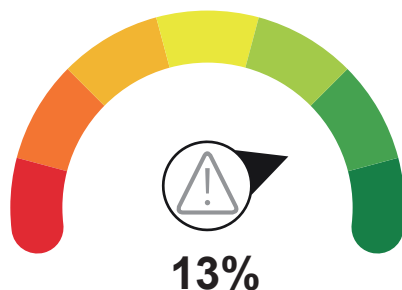
Test code: **EN11AA33BB55**
Date of the test: **10.04.2023**



Your horse Health overview

A horse needs the right amount of nutrients to be healthy. However, the absorption of vitamins and minerals is blocked by toxic elements that weaken the functioning of the entire organism. The lower the toxic burden, the higher the protection of your horse against the development of minor ailments and serious diseases. Skin problems, decrease in immunity, metabolism problems, hormonal imbalance, digestive system ailments, growth, and bone structure disorders, reproduction issues, reduced stress resistance, decreased muscle condition, or deterioration of hair appearance are some of the symptoms that may indicate the body's burden from toxic elements.

The level of heavy metal burden of your horse's body determined by the THAA tests is:



**THE TOXIC BURDEN
SHOWN IN THE RESULT**

The general level of toxic elements is safe. Check the individual heavy metals in the further part of the result*



*Note: the graph shows the average. If the percentage result is low, it can reflect a good result or a high excess of one toxic element. When the percentage result is high, it can reflect bad results or that all heavy metals are in excess but close to the safe limit. So, it is crucial to check the report to obtain further details.



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THAA Test result

toxic elements present in your horse's body

CONCENTRATION OF TOXIC ELEMENTS

Element	Patient's result (ppm)	Maximum value	EXCESS
Aluminium (Al)	245,84	382,86	
Barium (Ba)	6,95	4,20	
Cadmium (Cd)	0,07	0,13	
Lithium (Li)	0,13	0,20	
Nickel (Ni)	0,52	0,80	
Lead (Pb)	0,99	1,67	
Strontium (Sr)	3,62	4,92	
Vanadium (V)	0,40	0,65	

Every organism is exposed to toxic elements that get in from the external environment. The presence of such elements in the body is, therefore, inevitable and, in excess, dangerous to health.

The study is performed using the ICP-OES technique – optical emission spectrometry with excitation in inductively coupled plasma. Analysed on the Avio 200 PerkinElmer spectrometer by the analyst technician, Pets Diag laboratory.

Janicka
Izabela Janicka
starszy technik analityki



European
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THAA Information about your horse's health – assessment of biochemical threats

Your horse's THAA result showed that there are some disturbances in its organism:

56

Ba Barium

Barium is a toxic element. Its presence in the body is undesirable. Its excess may interfere with the absorption of macro and micronutrients, which in turn reduces the body's immunity and increases the risk of developing diseases.

Element	The THAA result showed
Barium (Ba)	EXCESS



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Sources of heavy metals

The main threat posed by toxic elements is their antagonistic relationship to micro and macro elements. This means that if your horse is loaded with heavy metals, they block the absorption of essential nutrients and, as a consequence, can cause serious illnesses.

Most heavy metals occur in nature in trace amounts. Their presence is related to volcanic eruption, ocean evaporation, bushfires, and rock weathering. They don't usually have a negative influence on the natural environment. However, progressing urbanization and significant industrialization have contributed to the increase in the concentration of heavy metals in nature. Heat and power plants, ironworks, combustion engines, the chemical industry, coal stoves in homes, incineration of waste, and incorrect storage of animal manure on farms are sources that pollute the ecosystem with toxic elements. In this way, heavy metals reach the atmosphere, water, and soil, settle on the aboveground plant structures, and are absorbed by their root systems. Therefore, it is important to prevent animals from grazing near busy roads, heat and power plants, and other industrial areas.

Sources of heavy metals also include household chemicals and, of course, food. How it is served is also significant. Metal containers and many other factors can burden the horse's body with cadmium, lead, or aluminum. Clinical symptoms depend on age, the amount consumed, and the duration of exposure, as metals can accumulate in tissues. Acute poisoning cases often manifest neurological symptoms, while low or chronic exposure affects the gastrointestinal system.

Detoxification

Heavy metals are stored by the body in the liver and spleen, as well as in bones and hair. The toxic elements gradually shift from the body into the blood, which in turn is purified by the liver or kidneys. Therefore, detoxification is a very slow process.

The best way to reduce the risk of heavy metal poisoning is to locate and eliminate its source. You should also take care of a properly balanced diet. A malnourished organism is more exposed to the action of toxic elements. The deficiency of some micronutrients increases the absorption of heavy metals, e.g. calcium deficiency increases the absorption of cadmium and lead. Maintaining a proper level of iron in the body reduces the absorption of heavy metals and reduces the toxic effect of lead on the circulatory system. Zinc has a positive effect on the excretion of arsenic from the body and reduces the absorption of lead. In contrast, antioxidants such as selenium, vitamin C, and vitamin E minimize the oxidative damage caused by heavy metals.