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Testing for Life

Fact sheet

Equi Feed

www.eurofins-agro.com

OFF-DO-34 V1

Why Equi Feed?

A horse must be fed a balanced diet to stay healthy and perform well. An optimal hay- or haylage-based diet is often difficult to achieve; after all, forage varies from batch to batch, meaning you never really know exactly what your horse is eating. With forage analysis using Equi Feed, you will have insight into the quality of the forage – and, if necessary, you can then supplement the feed with concentrate or supplements. Equi Feed allows you to give your horse the best possible diet.
Optimising feed for a horse or pony is quite a challenge. Horses have a special digestive system with a small stomach that is geared up for small bits of feed throughout the day. Most of this food is broken down after it passes the stomach, in the cecum and large intestine by intestinal bacteria, earning horses the title of hindgut fermenters. It is important to keep gut bacteria active with plenty of fibre. This fibre is found primarily in roughage such as grass, hay, and haylage. As a rule of thumb, a horse should get at least 1.5% of its body weight in dry matter from roughage daily to meet its fibre needs. This also means that forage should contain the main part of your horse's diet.
In addition to fibre, the feed must also contain sufficient energy, minerals and trace elements for a healthy horse to develop and perform well. When feeding too much or not enough nutrition, fibre, minerals or trace elements over a longer period of time as a result of a high or low analysis result, deficiencies or excess of can occur within the equine body resulting in health problems or reduced performance. Nevertheless, research has shown that 60% of all equine health problems are related to inadequate feeding. In conclusion, a balanced nutritional value, fibre-, mineral- and trace element content will determine the health and therefore performance of the horse.

Analysis

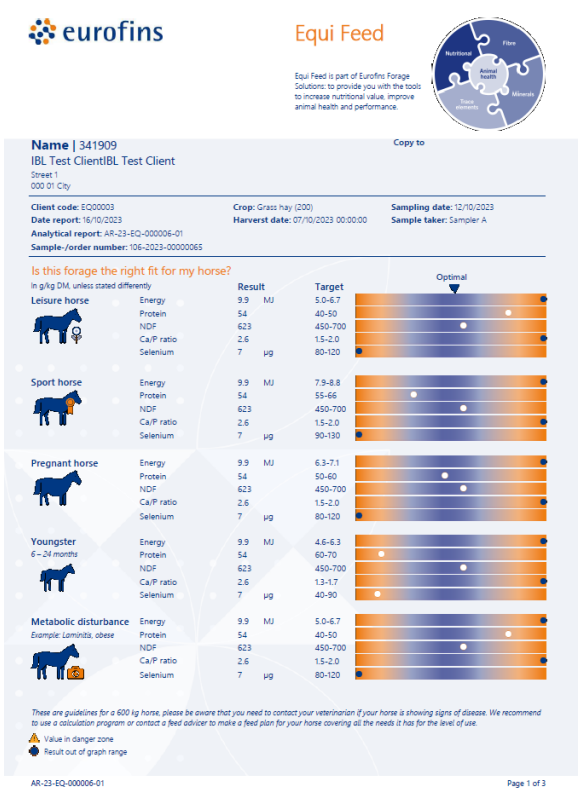
Equi Feed is analysed using the NIRS method. Near infrared spectroscopy (NIRS) for solid materials was developed in the 1960s. NIRS allows for fast, quantitative, non-destructive, and cost-effective estimation of multiple physical, biological and chemical forage characteristics from the same spectral data once sufficient large data databases have been established. Eurofins started with the NIRS system for forage in 1986.

Report

Is this forage a good fit for my horse?

The first page of the Equi Feed analysis report will show a general advice if the analysed forage will be a good fit for your horse. This general advice is based on the needs of the horse according to the CVB (2016) and NRC (2007) systems since all horses have specific needs according to their circumstances. The factors influencing the needs of a horse the most are weight, age and performance the horse.

The advice on this report is a general guideline based on a 600kg horse relative to the five categories that differ most from each other in the horse's needs: a leisure horse, sport horse, pregnant horse, youngster and horses with metabolic disturbance. Since the needs of the horse within each category are different, the target value for the results are different for each category. Therefore, the results of the analysis have to be interpreted differently for each category.



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Equi Feed

Equi Feed is part of Eurofins Forage Solutions: to provide you with the tools to increase nutritional value, improve animal health and performance.

Name | 341909
IBL Test ClientIBL Test Client
Street 1
000 01 City

Copy to

Client code: EQ00003
Date report: 16/10/2023
Analytical report: AR-23-EQ-000006-01
Sample-/order number: 106-2023-00000065

Crop: Grass hay (200)
Harverst date: 07/10/2023 00:00:00

Sampling date: 12/10/2023
Sample taker: Sampler A

Is this forage the right fit for my horse?

In g/kg DM, unless stated differently

		Result		Target
Leisure horse	Energy	9.9	MJ	5.0-6.7
	Protein	54		40-50
	NDF	623		450-700
	Ca/P ratio	2.6		1.5-2.0
	Selenium	7	µg	80-120
Sport horse	Energy	9.9	MJ	7.9-8.8
	Protein	54		55-66
	NDF	623		450-700
	Ca/P ratio	2.6		1.5-2.0
	Selenium	7	µg	90-130
Pregnant horse	Energy	9.9	MJ	6.3-7.1
	Protein	54		50-60
	NDF	623		450-700
	Ca/P ratio	2.6		1.5-2.0
	Selenium	7	µg	80-120
Youngster	Energy	9.9	MJ	4.6-6.3
6 – 24 months	Protein	54		60-70
	NDF	623		450-700
	Ca/P ratio	2.6		1.3-1.7
	Selenium	7	µg	40-90
Metabolic disturbance	Energy	9.9	MJ	5.0-6.7
Example: Laminitis, obese	Protein	54		40-50
	NDF	623		450-700
	Ca/P ratio	2.6		1.5-2.0
	Selenium	7	µg	80-120

Optimal

These are guidelines for a 600 kg horse, please be aware that you need to contact your veterinarian if your horse is showing signs of disease. We recommend to use a calculation program or contact a feed advicer to make a feed plan for your horse covering all the needs it has for the level of use.

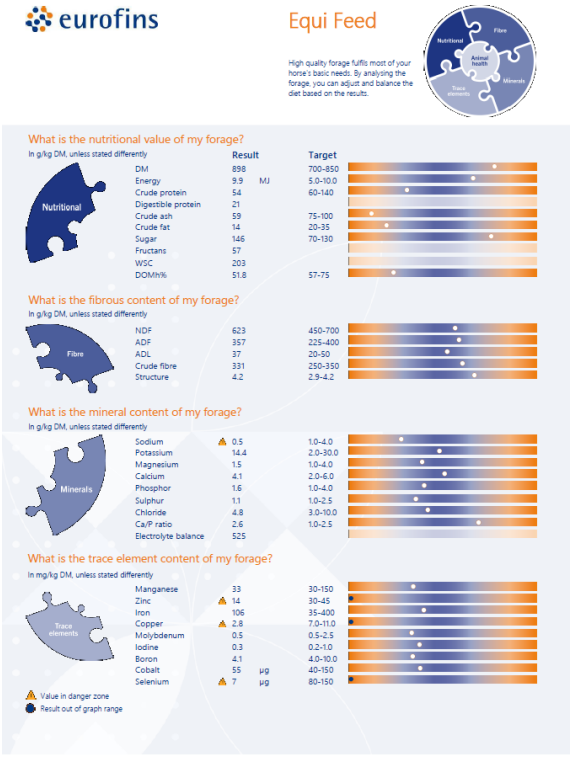
Value in danger zone
Result out of graph range

AR-23-EQ-000006-01

Page 1 of 3

What is the nutritional value, fibrous-, mineral- and trace element content of my forage?

The results of the Equi Feed analysis will be shown on the second page of the report. Each parameter will contribute to a piece of the puzzle of the animal's health. If the result of the parameter will lead to a deficiency or a toxic value, a warning sign will be shown in front of the result. By choosing a smaller analysis package and therefore missing some of the parameters on the report, you are missing one or two pieces of the puzzle. By missing pieces of the puzzle, you will miss out on an opportunity to balance your horse's diet to maintain or even improve your horse's health.



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Equi Feed

High quality forage fulfils most of your horse's basic needs. By analysing the forage, you can adjust and balance the diet based on the results.

What is the nutritional value of my forage?

In g/kg DM, unless stated differently

	Result		Target
DM	898		700-850
Energy	9.9	MJ	5.0-10.0
Crude protein	54		60-140
Digestible protein	21		
Crude ash	59		75-100
Crude fat	14		20-35
Sugar	146		70-130
Fructans	57		
WSC	203		
DOMI%	51.8		57-75

What is the fibrous content of my forage?

In g/kg DM, unless stated differently

NDF	623	450-700
ADF	357	225-400
ADL	37	20-50
Crude fibre	331	250-350
Structure	4.2	2.9-4.2

What is the mineral content of my forage?

In g/kg DM, unless stated differently

Sodium	⚠ 0.5	1.0-4.0
Potassium	14.4	2.0-30.0
Magnesium	1.5	1.0-4.0
Calcium	4.1	2.0-6.0
Phosphor	1.6	1.0-4.0
Sulphur	1.1	1.0-2.5
Chloride	4.8	3.0-10.0
Ca/P ratio	2.6	1.0-2.5
Electrolyte balance	525	

What is the trace element content of my forage?

In mg/kg DM, unless stated differently

Manganese	33		30-150
Zinc	⚠ 14		30-45
Iron	106		35-400
Copper	⚠ 2.8		7.0-11.0
Molybdenum	0.5		0.5-2.5
Iodine	0.3		0.2-1.0
Boron	4.1		4.0-10.0
Cobalt	55	µg	40-150
Selenium	⚠ 7	µg	80-150

⚠ Value in danger zone

Result out of graph range

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The conclusion, methods used and contact information.

On the last page of the report, you will find the conclusion of the analysis report. All things standing out during the process- or in the results of the analysis will be noted here.

You can also find the methods that have been used to analyse specific parameters within the Equi Feed analysis. This page will also contain the contact information of your Eurofins Agro laboratory.

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Equi Feed

Optimizing feed for a horse or pony is quite a challenge since forage varies from batch to batch. Equi Feed allows you to give your horse the best possible diet.

Methods

Test	Code	Method	Performed by	Accreditation
NIRs grass, hay	EQE26	, Spectrophotometry (N	Eurofins Agro Testing UK Ltd	
Air dry matter	EQE27	Internal Method GEWAS.OVB, Drying, Drying	Eurofins Agro Testing UK Ltd	
Boron	TWAA5	Internal method, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Calcium	TWAA6	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Copper	TWAA7	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Iron	TWAA8	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Magnesium	TWAA9	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Manganese	TWAB0	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Phosphorus	TWAB1	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Potassium	TWAB2	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Sodium	TWAB3	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Sulphur	TWAB4	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Zinc	TWAB5	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Cobalt	TWAB6	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Iodine	TWAB7	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Molybdenum	TWAB8	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	
Selenium	TWAB9	Internal Method SP22 based on NEN-EN-ISO 17294-2, ICP-MS, ICP-MS	Eurofins Agro Testing Wageningen	

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This report has been released under the responsibility of .
This report has been electronically validated by Andrej Maslena

Contact Eurofins:

Eurofins Agro Testing UK
WV9 5GB Needham Market
UNITED KINGDOM

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Parameters on report

Nutritional

Dry matter

Every product contains a certain amount of water. When you extract the water from the product, you remain with the dry matter content of the product. In order to have a good comparison between different products, it is important to know the dry matter content of the product. Fresh grass has a dry matter content around 18%, and haylage has a dry matter content around 65-75% whereas hay has a dry matter content around 85%. This means that the horse should eat 4 times more fresh grass relative to hay to obtain the same dry matter content and fulfil the basic needs of the horse.

Energy value

The energy value indicates the energy a horse can derive from a product. To calculate the energy value of a horse feed, the digestibility of the organic matter of a product is taken into account. However, there are different parameters to express the energy value of horse feed around the world. Gross energy (GE) is for example the amount of energy within the feed. If you take into account the amount of energy that is lost in the faeces of the horse because a horse cannot digest all feed, you remain with the digestible energy (DE). Besides faeces, energy can also be lost by excreting urine. By extracting the energy lost in the faeces and urine, you remain with the metabolizable energy (ME). During digesting and fermenting the feed, heat is produced. Heat is also a form of energy. Extracting the faecal, urinary and heat production energy that is lost during the intestinal feed processing, you remain with the net energy value (NE). In the Table below some of the feed evaluation systems and the feed value in Europe are shown.

Country	Energy system	Energy value
Netherlands	NE	EWpa
Belgium	NE	EWpa
England	DE	MJ
Germany	ME	MJ
France	NE	EWpa or UFC
Denmark	DE	MJ
Sweden	ME	MJ

DOMh (%)

Digestion coefficient of organic matter for horses (% of the organic matter). The organic matter of a product indicates the part of the product that can be digested by the animal. The organic matter contains amongst other things protein, fat and sugar. The DOMh% indicates the percentage of the organic matter in the feed that can be digested. The average DOMh of forage is around 60%. However, forage containing a high structure of crude fibre, NDF or ADL can lead to a lower DOMh since fibre is harder to digest and ADL (lignin) cannot be digested by the animal.

Crude ash

Crude ash is the inorganic part of the organic matter of the forage. The crude ash fraction in forage contains the total value for minerals and contaminants such as soil or sand within the forage. When drying the forage sample at high temperature for analysis, the minerals that have not been fully absorbed in organic matter and the sand remain. By adding up the mineral content of the forage and extract this from the crude ash part of the forage, the sand within the forage remains.

Crude protein

Crude protein is the total amount of protein that is present in the product. Crude protein will be analysed by the amount of nitrogen (N) within the forage times 6,25 while the N content within protein is around 16%. Protein is built from amino acids. Amino acids are very important components for vital organs, muscles, hair, skin and enzymes. Therefore, protein is needed for daily maintenance as well as lactation, growth and reproduction.

Digestible protein

Digestible protein is the degree of the crude protein in a feed material that can be digested by the horse. The higher the protein digestibility of a product, the higher the amount of digestible protein for the horse. The digestible protein is calculated by the digestion coefficient of crude protein which is calculated by the analysed digestibility coefficient of the organic matter.

Crude fat

Crude fat is the total amount of fat within the product. Fat contains three times more energy compared to carbohydrates. Therefore, fat is sometimes added to the diet of the horse to increase energy. However, horses don't have a gallbladder causing the gall to digest directly from the liver. Therefore, higher amount of fat has to be introduced slowly in order for the liver to adapt to the needed gall production within the equine digestive system.

Sugar

The type of sugar analysed within the Equi Feed analysis are ethanol soluble carbohydrates (ESC). Sugar consist of glucose produced within the plant with the help of photosynthesis. For grasses, glucose is saved within the seed or the stem of the plant as fructans. For crops, glucose is saved within the seed or the roots of the plant as starch. Therefore, fresh grass does not contain starch. Sugar is rapidly broken down by enzymes within the small intestine. Too much sugar will cause the sugars to flow into the large intestine where it will be broken down by intestinal bacteria while the feed only spends a certain amount of time in the small intestine in which the enzymes are able to digest the feed. Since the intestinal bacteria in the large intestine are mostly prepared to break down fibres, the bacterial population will change. This can be the start of serious health issues such as laminitis which is why it is very important to know the amount of sugars in the forage.

Water soluble carbohydrates (WSC) (for fresh grass and hay only)

Water soluble carbohydrates are a summary of the ESC (sugars) and fructans causing the WSC content of the hay always be higher relative to the amount of sugar analysed within the hay. When hay is soaked in water, part of the WSC can be soaked out of the hay. This is why it is important to know the sugars as well as the WSC within the forage to know how much of the carbohydrates can be soaked out of the hay.

Fructans (for fresh grass and hay only)

Fructans are part of the WSC. Fructans are sugars made within the plant with the help of sunlight during photosynthesis to use the sugars as a source of energy to grow. Factors affecting the plant to grow are for example lack of water, lack of fertilization or a temperature below 10oC in combination with lots of sun causing stress for the plant. When a plant is in distress, the plant produces higher amount of fructans to store. The fructans will be used as a source of energy when the circumstances are favourable for the plant. Research suggests that high amounts of fructans can cause laminitis for horses.

Ammonia (NH3) (for haylage only)

The NH3-faction indicates the ammonia percentage within the haylage. When haylage is conserved by wrapping the grass in foil, proteins are degraded. The waste-product of the proteins degradation is ammonia. A high percentage of NH3 in the haylage will mean that a lot of protein has been degraded during the conservation. This can be due to a bad conservation.

pH (for haylage only)

The pH indicates the extent to which the haylage is acidified. Wrapping forage in foil in combination with moist will cause the process of conservation to start and to stop the process of fermentation. Therefore, pH is also related to dry matter. A higher dry matter content in the forage will have a higher pH. During the process of conservation, acids will be formed to make the bales stable in order for the fermentation processes to stop. When the bales reach an average pH of <5.2, the bales are well conserved.

Nitrate (for haylage only)

Nitrate indicates the palatability of the haylage. Nitrate is related to the fertilization of the soil. A high concentration of nitrate in the haylage indicates incorrect fertilization. Incorrect fertilization can be either too much of too little fertilization of the soil before mowing the grass. A high concentration of nitrate will negatively influence the palatability and smell of the haylage which influences health and can even be even deadly.

Fibre

Crude fibre
The crude fibre part of the plant indicates the cell walls of the plant cells. The crude fibre fraction of the forage contains the cellulose part of the forage and only for a small part hemicellulose and lignin. These cell walls will mainly be fermented by bacteria within the cecum and colon of the horse. The fermentation end products of fermenting fibres, otherwise known as volatile fatty acids (VFA's), are the main energy source for the horse.

Structure
The structure indicates the amount of crude fibre within the product. If the product has a higher crude fibre content, the structure value will be higher. A high structure within the forage causes the horse to make more chewing motions to break down the fibres. Breaking down the fibres will cause a higher population of fibre fermenting bacteria within the cecum and colon of the horse causing better digestion. A higher structure also stimulates more chewing and therefore a higher production of saliva buffering the hydrochloric acid and pH within the equine stomach.

NDF
The neutral detergent fibre (NDF) indicates the total amount of cell walls within the product. The cell walls of forage consist of cellulose, hemicellulose and lignin.

ADF
The acid detergent fibre (ADF) indicated the fibre content that is hard for a horse to digest. The ADF fraction contains the cellulose and lignin part of the cell wall.

ADL
The acid detergent lignin (ADL) indicated the part of the product that cannot be digested by the animal. If the product contains a high amount of lignin, the product will be less digestible for the horse.

Minerals

Sodium

Sodium within the forage influences the performance (for example labour and gestation) and appetite of the horse while sodium affects the condition of the nerves and muscle impulses within the equine body. Nevertheless, sodium affects the water holding capacity within the equine body. Through excessive sweating of the horse, the horse can lose a lot of sodium. A sodium deficiency within the equine body can be expressed by less sweat and poor performance, excessive licking behaviour, constipation, eating less, dry and stiff skin, and muscle cramps.
In extreme cases, the horse can eventually stop eating or can show signs of a disturbance of the muscular and nervous system. An excess of sodium within the equine diet can also lead to a decrease in feed intake but also causes an increase in blood pressure within the body when an excess of sodium is combined with limited water intake.

Potassium

Usually, potassium is found in abundance in roughage. Therefore, potassium does not need to be supplemented under normal circumstances. Potassium influences the fertility, appetite and performance of a horse. Potassium is an important electrolyte which can be sweated out. It regulates numerous processes in the body and influences the regulation of water absorption by organs, muscles and bones. A deficiency can result in a decrease of appetite and reduced growth. An overdose of potassium will cause a horse to urinate more often.

Magnesium

Magnesium plays an important role in the muscle contraction. It is also important for the activation of certain enzymes, for healthy bones and the transmission of stimuli nerves to muscles. The absorption of magnesium can be inhibited when there is an overdose of calcium in the diet. A magnesium deficiency within the equine body can result in poor appetite, nervousness, sweating, muscle cramps, fast breathing, deterioration of skeletal muscle tissue and problems with carbohydrate metabolism. Only a very large overdose of magnesium in the diet can lead to diarrhoea.

Calcium and Phosphor

Calcium and phosphor both are contributing to a strength of the skeleton of the horse by contributing to the structure of the bones. In addition, calcium and phosphor play a role in the stimulus conditions in nerves and muscles and contribute to the function of enzymes and metabolic processes. A deficiency in calcium and phosphorus in the body can lead to incorrect formation of the bones in young horses. For adult horses, a deficiency in calcium or phosphorus can lead to lameness, deformation of the skeleton, bone decalcification and a reduction in the function of the nervous system. Nevertheless, the proportion of calcium and/or phosphorus should not be too high since this could lead to a disruption in bone metabolism and to a deposition of calcium in the vessel walls, kidneys and lungs.

Ca/P ratio

The Ca/P ratio is the amount of calcium in the product relative to the amount of phosphorus in the product. The optimal ratio between calcium and phosphorus for young horses would be 1,5:1 and 2:1 for adult horses.

Sulphur

For several processes within the equine body sulphur is of great importance, these processes are mostly related to the skin, hooves, tendons, ligaments, muscles and joints. Nevertheless, sulphur has an important role with reducing allergy symptoms.

Chloride

Chloride is of great importance with the water metabolism, recovery of the muscles after training, functioning of the kidneys and stomach acid secretion. If the body becomes too acidic with a too low pH, nutrients will be less absorbed and will cause a slower recovery after training. With a normal amount of Sodium in the diet, it is unlikely that there will be a chloride deficiency. When there is a sodium deficiency in the diet, there will most likely also be a chloride deficiency. Chloride can be added to the diet by means of a salt licking stone when low analysis results of chloride in the forage occur.

Electrolyte balance

The electrolyte balance is a very important parameter considering the acid-base balance (pH) within the blood of the animal. The electrolyte balance takes into account the Sodium, Potassium and Chloride within the forage. When there is a low amount of Sodium or Potassium, or a high amount of Chloride analysed within the forage over a longer period of time, the blood of the animal can become more acid which can indicate health issues such as metabolic acidosis.

Trace elements

Manganese

This mineral has the highest occurrence within the liver of the horse. It stimulates enzymes in the bone- and fat metabolism and is essential for the function of the ovaries. Nevertheless, manganese is needed to produce cartilage. A deficiency of manganese can cause enlarged hocks and affect the growth plate. In addition, it can cause lameness and poor coordination of movement in young horses. In case of a serious deficiency, it can lead to the breakdown of bones in the womb, increase the risk of rejection of the unborn foal and irregular cycle in the mare. However, shortages of manganese do not occur very often.

Zinc

Zinc contributes to building and regulating skin functions as well as the structure of skin, hooves and hair. Zinc is a component of the enzymes that regulate oxygen transfer and play a role in the protein and carbohydrate metabolism. In addition, zinc is important for the development of the immune system such as healing of the wounds and form a defence against infections. Nevertheless, zinc is needed for stallions to produce active sperm since zinc is needed to maintain the testosterone level. A zinc deficiency can cause a disrupted bone development, decreased appetite, an overproduction of the hoof, changed skin structure, hair loss or stunted growth in young horses. It can also result in the clinical picture of mug, a dull coat or summer eczema. A zinc excess can lead to fractures around the hooves. However, an excess of zinc is almost non-existent.

Iron

Iron is a component of the red blood cells that ensures oxygen uptake and transport in the blood. Iron is also present in the muscle tissue to maintain the oxygen levels in the muscle and in a number of enzyme systems. Iron deficiency can cause anaemia and reduced performance in high level sport horses. Excess of iron is bad horse the equine body since an iron excess causes the development of free radicals. Iron is regularly relatively high in forage but can also be high in the drinking water. However, part of the iron is not absorbed by the horse which is why the effects of an iron surplus does not occur very often. Young horses are very sensitive to an iron surplus. An overdose of iron can lead to a decreased absorption of copper, manganese and zinc.

Copper

Copper plays a role in many processes in the body. Copper is necessary for converting iron into haemoglobin, building red blood cells, the formation of pigment and is essential for copper-dependent enzymes to maintain the defence system and connective tissues. Copper also plays a role in vascularization and skeletal development. A copper deficiency results in an increased defects and fragility of the bones and cartilage. The absorption of copper can be inhibited if the proportion of zinc in the diet is overdosed.

Molybdenum

Molybdenum supports the activation of the bacteria causing fermentation and the endocrine system. Molybdenum toxicity or deficiency has not been reported in horses.

Iodine

Iodine is used for the formation of the thyroid hormone which regulates the metabolism, which is important for the nervous system and is necessary for the maintenance of healthy hooves, skin and coat. Especially during pregnancy, a shortage or excess of iodine can affect the unborn foal. In case of a deficiency, the mare can show an abnormal oestrus cycle, which can have consequences for the foal. A deficiency in foals can manifest itself in an enlarged thyroid gland, weakness, persistent hypothermia, respiratory distress, OCD, coarse hair, slow shedding, lethargy and high neonatal mortality. In addition, there is a higher susceptibility to infectious diseases and respiratory infections. Feeing an excess of 300-400 mg of iodine per day to the mare can have infertility and abortion as a result. A daily intake of more than 100 mg of iodine, the foal may experience weakness, lethargy, high neonatal mortality, poor muscle development and long bone abnormalities. Iodine can mainly be found in algae such as seaweed.

Boron

The role of boron in animals is known to be divers. Research has shown that boron increases the magnesium concentration ionized within the blood. Toxicity or deficiency of boron has not been reported in horses.

Cobalt

Cobalt is mainly used by the microorganisms in the horse's large intestine, which use it to produce vitamin B12. In addition, cobalt ensures the activity of enzymes, blood supply, development of the epidermis and growth regulation. A horse needs very little cobalt. Therefore, deficiencies never actually occur.

Selenium

Selenium is an important antioxidant to, amongst other things, prevent the oxidation of unsaturated fatty acids. In addition, selenium supports muscle function, the effect of vitamin E and protects the muscle fibre from damage. Selenium also plays a role in growth hormones. A selenium deficiency can cause pale, weak muscles in foals and reduced resistance, reduced growth, stiffness, or lethargy. An excess of selenium is very toxic. However, the margin between too much and too little is very small, which is why it is important to only add extra selenium when the food actually appears to contain too little selenium. A selenium deficiency occurs regularly since soil often contains little selenium.

Eurofins Agro is a leading laboratory with almost 100 years of experience. With a complete package of sampling, innovative analyses and clear, tailored advice you can adjust the production process on your farm. This way your crops get exactly what they really need. And you are assured of the highest possible yield and quality, at the lowest possible cost.
Eurofins Agro is part of Eurofins Scientific: an internationally growing laboratory organization. We provide innovative analyses, accurate and up-to-date data and clear advice. Our products and services are the result of practical knowledge, supported by scientific research. We supply you with the right data and provide guidance on optimal fertilization for soil and crop health. In short... we do everything for growing insight! Insight from which you reap the benefit.

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