



EXCELLENCE IN EQUINE NUTRITION



PERFORMANCE



600G TUB (20 DAY COURSE)

HEPATRITION

Helps Maintain Normal Liver Function

Hepatrition is a Complementary Feed for horses, designed to provide key feed ingredients required for normal liver function.

Instructions for Proper Use:

All horses - feed 30g per day mixed with the normal feed ration.

Convenient 20 day course with no withholding period.

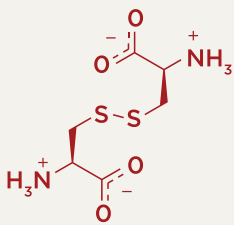
One Heaped Scoop = approx. 30g

Composition: Calcium Carbonate, Maize Starch, Dextrose, Alpha Lipoic Acid 600mg per 30g

Additives	per 30g	1kg
Taurine	4,500mg	150,000mg
L-Cysteine hydrochloride monohydrate	3,300mg	110,000mg
L-Arginine	3,300mg	110,000mg
Milk Thistle (Minimum Silymarin content 80%)	3,000mg	100,000mg
Niacinamide	125mg	4,166mg
Vitamin B1	60mg	2,000mg
Vitamin B2	60mg	2,000mg
Calcium-D-pantothenate	60mg	2,000mg
Folic Acid	48mg	1,600mg
Vitamin B6	30mg	1,000mg
Biotin	1.2mg	40mg
Vitamin B12	360mcg	12,000mcg

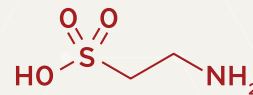
Analytical Constituents: Crude Protein 37.2%, Crude Fat 1.4%, Crude Ash 16.4%, Crude Fibre <0.1%, Calcium 7.39%, Sodium 0.02%.

HEPATRITION CONTAINS



Cysteine.

Glutathione (GSH) is the major water soluble antioxidant in the body of the horse, and reduced levels in the body tissues occur in numerous disease states and other pathological conditions. Administration of L-Cysteine hydrochloride monohydrate, a cysteine derivative restores and maintains optimum intracellular GSH levels.

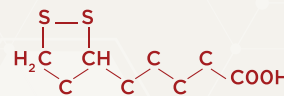


Taurine has an undisputedly core role in production and function of bile salts, such as taurocholic acid, that are essential to fat digestion. Taurine has also been demonstrated to function as a significant antioxidant in the liver, where it has potent antioxidant properties.

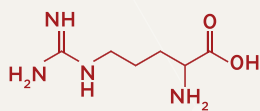


Milk thistle, which is sometimes called silymarin, is believed to have protective effects on the liver to improve its function.

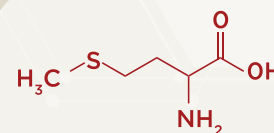
Hepatrition contains 80% silymarin.



Alpha-Lipoic Acid. Natural occurring thiol compounds are central to the proper functioning of numerous biochemical reactions due to their ability to be readily oxidised (but swiftly regenerated (antioxidant capacity)). Alpha-lipoic (ALA) is intimately involved in detoxifying processes in the liver.

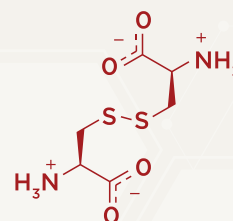


Arginine. Adequate tissue supplies of arginine within the liver are required for the maintenance of comprehensive hepatic function. Optimum liver arginine levels are necessary to properly detoxify excess ammonia within the body that is formed, especially in racehorses, as a consequence of high dietary protein intake and as a metabolic end-product of intense exercise. Appropriate arginine levels are also necessary for the maintenance of creatine biosynthesis which takes place partly within the liver, but which is stored and functions predominantly in skeletal muscles.



Methionine and cysteine.

Methionine together with cysteine is a sulphur containing acid. Methionine can be converted to cysteine via S-adenosylmethionine. Cysteine can then be converted to glutathione which is a major water soluble antioxidant. Both cysteine and methionine are regarded as limiting amino acids for glutathione synthesis.





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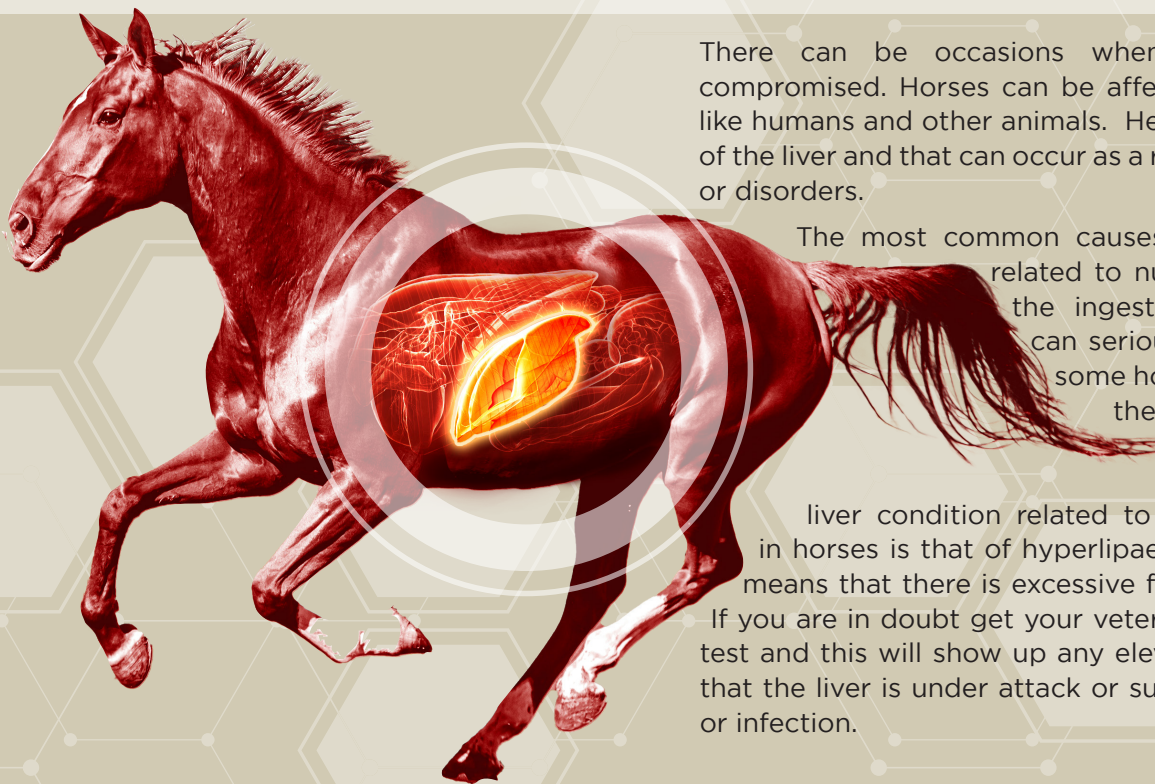
WHY IS THE LIVER SO IMPORTANT?

The liver is one of the most important organs of the body, and it's the same in most mammals, including performance animals such as the horse. The liver is part of your horse's digestive system and is one of the most metabolically active organs in the horse. It performs crucial roles as part of the overall digestive system in the horse: i) for those nutrients that flood in to the liver it plays a key role in regulating their metabolism, storage and distribution within the body; ii) it is one of the principal storage sites of glycogen, the so-called 'animal version of starch', which is one of the ways the body stores energy; iii) it is a key storage site for a host of other nutrients such as fats, proteins and some vitamins; iv) it essentially filters out the blood that comes out of the intestinal tract on its way back to the heart; v) it metabolises drugs and toxins ensuring that they are not as harmful to the horse; vi) it is crucial in its role for fat digestion, through the production of bile; and vii) it produces essential components that are key in the horse's natural ability to clot blood when required.

WHEN THINGS GO WRONG

There can be occasions when a horse's liver is compromised. Horses can be affected by hepatitis, just like humans and other animals. Hepatitis is inflammation of the liver and that can occur as a result of many diseases or disorders.

The most common causes of liver disease are related to nutrition. For example, the ingestion of certain toxins can seriously affect the liver. In some horses with liver disease there also seems to be a link with exposure to mycotoxins. Another liver condition related to diet that is common in horses is that of hyperlipaemia, which essentially means that there is excessive fat in the bloodstream. If you are in doubt get your veterinarian to run a blood test and this will show up any elevated levels indicating that the liver is under attack or suffering from a disease or infection.



WHAT SYMPTOMS SHOULD I LOOK OUT FOR?

Symptoms of liver disease can be varied, but those that you should look out for in your horse can include (but are not limited to) loss of appetite, weight loss, diarrhoea, fever, swelling around the chest/abdomen/sheath, a slightly yellow tinge on the gums and eyes (jaundice), skin sensitivity to sunlight, and in the most severe cases neurological signs such as staggering, severe weakness and even apparent blindness. A liver that is severely diseased has a decreased capacity for energy metabolism and therefore a steady supply of high glycaemic carbohydrates in the diet is advocated, along with low protein (or at least not excessive protein).