**Gut Ease Powder**

In this article written by Professor Jo-Anne Murray PhD, MSc, PgDip, PgCert, BSc (Hons), BHSII, RNutr, FAfN, PFHEA, FRSB Veterinary School College of Medical, Veterinary and Life Sciences, we look at the various ingredients included in Premier Performance’s Gut Ease Powder supplement to help you to understand what the ingredients are and what they may do can be of huge benefit when deciding on which supplement to feed.

The Gut Ease Powder supplement has a variety of ingredients that directly impact on helping to maintain a healthy gastrointestinal tract and support digestion, but some of the ingredients also provide additional benefits to help maintain health and performance generally.

**Yea Sacc**

Yea sac is a yeast culture based on *Saccharomyces cerevisiae* strain 1026. Yeast is a probiotic supplement for horses. There is a huge amount of scientific evidence that demonstrates many benefits associated with feeding yeast to horses, including improved digestion and gut health, for example, gastric ulcer syndrome, colic, colitis and free faecal water syndrome. Many studies have also shown that yeast can help minimise disruption in the gut when there are changes to your horse’s diet and/or management, such as travelling, competing, changes in pasture and forage source.

**Chia Seed Flour**

Chia flour id made from ground chia seeds. Chia seeds are high in fat with a rich source of omega fatty acids, amino acids and fibre. Omega-3 fatty acids have been shown to have beneficial effects on cardiovascular, inflammatory, neurological, reproductive and other functions have been reported in many species, including horses. Chia seeds are also a rich source of protein, including lysine. They also contain branched chain amino acids, which have been shown to be important in building muscles, decreasing muscle fatigue and alleviating muscle soreness. Studies in other species have shown an improvement in insulin resistance when chia seeds are fed. Chia seeds contain fibre and anecdotal studies of feeding chia to horses suggest that they could be a potential alternative to psyllium, which is considered an effective method of helping to prevent sand colic in horses. Chia seeds are also thought to preserve hydration in working horses and is also a great source of many minerals, including calcium, phosphorus, magnesium, potassium, iron, zinc and copper. They are also a rich source of vitamin B.

**Flax Seed**

Flax seed, also known as linseed, are small seeds containing high amount of oil and is known for producing a high shine to horse coats. They contain high levels of omega 3 fatty acids that have beneficial effects on cardiovascular, inflammatory, neurological, reproductive functions. The also contain fibre, which helps support digestion, and are low in starch and sugar.

**L-arginine**

L-arginine is an amino acid, which was discovered in 1895 and is involved in several metabolic pathways in the body, as well as being used to build protein in the body. L-arginine is known as a semi-essential amino acid, in that the body normally produces it in adequate amounts, but supplementation may be required at times of poor nutrition, ill-health or exercise. Whilst we know that L-arginine is necessary for the synthesis of many biologically important compounds in animals, recent attention has been given to its conversion into nitric oxide (NO) in the body.

As a precursor to NO, L-arginine has been repeatedly shown in other species to protect gastric mucosa (the inner lining) from damage, including gastric ulceration. Studies in horses have also demonstrated the role of arginine-derived nitric oxide in accelerating the healing of gastric ulcers and have shown L-arginine supplementation to enhance ulcer healing. It has also been suggested that L-arginine many be beneficial in colic cases to help reduce spasms and ischaemia (restriction of blood supply) where the vascular areas of the intestine have been affected. In humans, diabetes is associated with a reduction in blood plasma levels of L-arginine. There is evidence that L-arginine supplementation may be an effective way of improving endothelial function in humans with diabetes, where a low intravenous dose of L-arginine has been shown to improve insulin sensitivity in obese, type 2 diabetic human patients. Oral supplementation of L-arginine also showed a significant improvement in insulin sensitivity in humans with diabetes. This warrants further investigation in horses of course, but this may have the potential to help in the management of horses with insulin resistance and/or equine metabolic syndrome if the mechanisms are similar.

**L-Tyrosine**

L-tyrosine is an amino acid and a precursor for the neurotransmitters dopamine, adrenaline and noradrenaline. These factors play an important role in learning, memory, behaviour, attention and mood, but they also impact on energy release. During periods of stress, or exercise (especially intensive) the brain releases a signal that ultimately increases adrenaline release into the bloodstream. This makes the heartbeat faster than normal, pushing blood to the muscles, heart and other vital organs. Blood sugar (glucose) levels rise as the body releases energy stores.

**N-Acetyl-L-Cysteine**

This is the supplemental form of cysteine and one of its important functions is to replenish glutathione, which is a powerful antioxidant. Glutathione’s antioxidant properties include reactivation vitamin C and E metabolites that have been oxidised by free radicals.

**Zinc Sulphate**

Zinc is an essential micro mineral, also known as a trace element, which has a variety of roles in the body, including aiding metabolism, regulating blood sugar and supporting a healthy immune system

**Lecithin and Apple Pectin**

Lecithin, which is a plant component, has been shown to help maintain gastric health and potentially prevent gastric ulceration by attaching to the lining of the stomach and preventing it from damage by creating a barrier against acid. Lecithin supplementation has also been reported to reduce excitability and anxiety in horses, which was attributed to its effect on ulcer healing. Studies in horses have shown lecithin to have a beneficial effect on the treatment and prevention of gastric ulcers. Pectin is a type of fibre that turns into a gel when it comes into contact with acids, which that may help protect the horses stomach lining from gastric ulcers developing.

**Aloe Vera**

The inner leaf gel of the Aloe Vera plant has been reported to be effective in the treatment and prevention of gastric ulcers in other species, including humans. Studies in horses have shown some improvement in the treatment of naturally occurring gastric ulcers and this has been attributed to its mucopolysaccharide content. Mucopolysaccharides are sugar chains that help protect the lining of the stomach. These are produced by the animal, but studies have shown that supplemental mucopolysaccharides can be beneficial in treatment and prevent gastric ulcers.

**Fenugreek**

Fenugreek is a herb that is commonly included in horse feeds and supplements as research has shown horses prefer this flavour over many others tested, including apple, carrot and mint. Fenugreek has also been reported to help with lowering blood sugar levels and has antioxidant properties.

**Zeolite**

This is a natural mineral that has a high silicon content and can help with the removal pollutants from the digestive tract and expel them in the faeces. The silicon can also be beneficial for bone mineralisation and collagen synthesis.

**Himalayan Salt**

Himalayan salt is similar to table salt, but also contains some macrominerals and trace elements such as calcium, iron, zinc and magnesium. Providing salt in your horse’s diet is important for hydration, please see my previous article for information on electrolytes.