

3-IN-1 LIQUID FORMULATION



All Beachport Liquid Minerals products are made up of a unique chelated blend including the well documented nutritional values of kelps and sea grasses (naturally sourced amino acids). They all include fulvic acid (a natural electrolyte) which makes the blend bio-active and bio-available. Each Beachport product also includes varying amounts of chelated major and trace elements suitable for improving the health and productivity of your livestock.

AMINO ACIDS //

There are 10 essential amino acids and 10 known non-essential amino acids that are important for effective livestock production. The body does not produce essential amino acids naturally, so they need to be introduced. Non-essential amino acids can be made by the body through the synthesis of proteins.

We have always believed there to be a tie between how the essential and non-essential trace elements and amino acids function. This has now been scientifically proven.

For example, if the essential amino acid methionine is not available, sulphur cannot be fully utilised. Similarly, if proline is not available, calcium and phosphorus cannot be fully utilised.

When amino acids and trace elements are introduced to the rumen, they are compromised by the rumen bacteria. Traditionally, this has been a barrier for the successful use of amino acids with ruminants. It's been the difference between the lift in production between monogastrics and ruminants.

To maximise absorption of amino acids into the blood stream we take simple amino acids in our sea grass and biosynthesise into complex amino acids. Then aided by bonding with our natural electrolyte fulvic acid with chelated trace elements allows for the liquid concentrate to be rumen protected and rapidly absorbed into the blood stream. The blood slowly reverses this process returning the complex amino acids to simple amino acids while also slowly releasing the chelated trace elements, over a six-week period.

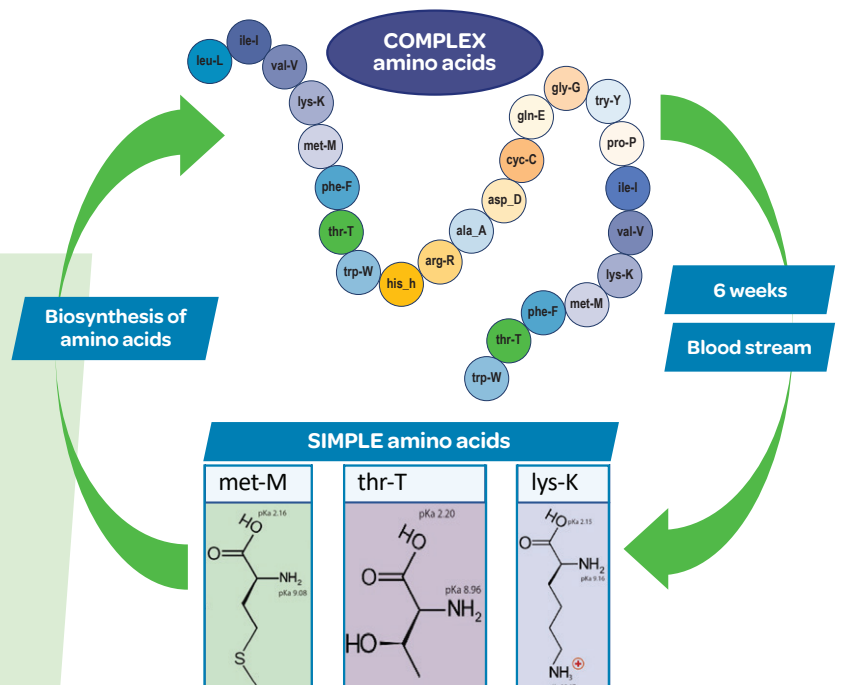
Essential amino acids //

- Leucine: tissue repair, muscle mass, stress, growth, protein synthesis, bone, coat and blood haemoglobin.
- Isoleucine: nervous system, energy, muscle, endurance and blood haemoglobin.
- Valine: nervous system and glycogen production.
- Lysine: absorption and conservation of calcium, muscle development and immune system.
- Methionine: is a sulphur producing amino acid, promotes estrogen production and growth.
- Phenylalanine: nervous system (stimulates endorphin).
- Threonine: protein balance, immune system, nervous system, stress, bones and coat.
- Histidine: powerful nutrient, growth and blood health.
- Arginine: essential for nutrition.

Non-essential amino acids //

- Alanine: glucose-alanine cycle and urea cycle.
- Aspartic Acid: is a metabolite in the urea cycle.
- Glutamic acid: involved in cellular metabolism, breaks down dietary proteins into amino acids.
- Glycine: is considered a glycogenic acid, which means it helps supply the body with glucose needed for energy.
- Proline: for phosphorus, calcium absorption and essential for milk production
- Tyrosine: synthesises proteins.

Beachport's system of incorporating these amino acids with the absorption and retention qualities of fulvic acid is key to how this product minimises the dependency on urea in lick and blocks.



TRACE ELEMENTS

Not just a trace element supplement



CHELATED ELEMENTS //

Included in Beachport products, the following elements play an immense role in the health of livestock. Levels will vary depending on the product and its use. Keep in mind that the levels are sufficient for this type of supplement due to the increased absorption and retention abilities facilitated by the fulvic acid and kelp/seagrass extract.

MAJOR ELEMENTS //

Major elements are essential minerals that the body requires larger amounts of.

Phosphorus: works on metabolic pathways and physiological functions such as bone and joint health, helps with the way energy is used and distributed, with protein synthesis, the transport of fatty acids and amino acid exchange. It's also important for growth and cell differentiation, appetite control, efficient feed utilisation and fertility.

Magnesium: is linked closely to calcium and phosphorus. 70% of magnesium is found in the skeleton and the remainder is utilised in soft tissues and fluids. Magnesium plays a vital role in cellular respiration, cellular biochemistry and function, active transport system and the nervous system (improves temperament). Also helps with prevention against grass tetany (Hypomagnesaemia) and milk fever.

Potassium: works alongside sodium, chlorine and bicarbonate ions in osmotic regulation. It has an important role in the nervous system, muscle functions and carbohydrate metabolism.

Sulphur: assists in microbial digestion and protein synthesis as sulphur occurs in proteins which contain the amino acids cystine, cysteine and methionine.

TRACE ELEMENTS //

Trace elements are essential minerals which are important to daily functions but are only required in small amounts.

Copper: a component in proteins involved in blood which helps with blood health and growth of the animal.

Cobalt: required by the microorganisms in the rumen for the synthesis of B12; also functions as an activating ion in enzyme reactions.

Iodine: a very small amount is present in the body. Iodine is required in the synthesis of the hormones produced by the thyroid gland. From the synthesis of the hormones produced by the thyroid gland, Iodine also plays a role in fertility, immune defence, digestion and muscle function.

Manganese: is important as it acts as an activator of enzymes. It has been found it helps with growth, skeletal development, fertility and reproduction. One of the first signs of deficiency is abnormalities in young calves and lambs, also in decreased conception rates.

Zinc: is found in every tissue in the animal's body. Important to animals as it aids in skin, wool, hair, hoof health and wound healing. Zinc is also involved in nucleic acid metabolism as well as the immune system and electrolyte balance.

Selenium: involved with Vitamin E in the immune system to protect against heavy metal toxicity. Selenium also assists in the production of the thyroid hormone, muscle development (white muscle disease), milk production, blood health and tissue health of young animals.



IMPROVED PRODUCTION

With one of nature's most powerful electrolytes



FULVIC ACID //

For Beachport it was one thing to have mastered the science behind seagrass concentrate, then adjust the formula to include trace elements, but the magic was still to come in the fulvic acid.

Fulvic acid is one of nature's most powerful natural electrolytes and a naturally occurring chelating agent. It stimulates the rumen, is completely soluble, has the ability to bond and dissolve minerals and nutritional elements and is capable of carrying 60 or more minerals and trace elements into cells.

An important consideration in animal nutrition is the rate at which feed is degraded in the rumen. This was a key consideration in us developing an efficient and effective supplement.

"Fulvic acid is extracted from a plant derived natural process and is an exclusively Australian processed product which is certified organic by the National Association For Sustainable Agriculture Australia (NASAA). The fulvic acids are extracted using a unique process to maintain the

integrity, stability and most importantly biology of the end product.

There has been sufficient research completed throughout the world to prove that fulvic acids have the ability to increase the absorption and retention of minerals and nutrients, both within plants and animals.

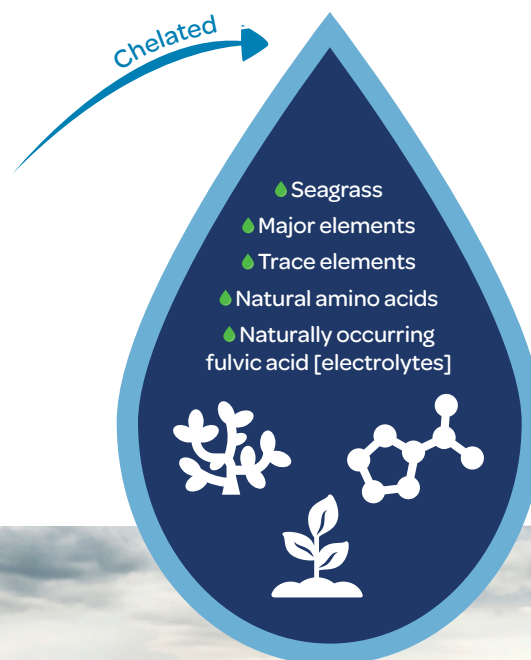
The properties of fulvic acid, which enable it to achieve the best results as animal supplements are:

- They are strong natural electrolytes and hence have high chelating and cation exchanging properties. This enables the fulvic acid to bind to the nutrients, enhancing the availability and absorption of nutrients within the animal rumen.
- The low molecular weight and bio-transporting ability of fulvic helps to carry the held nutrients into the living cells. Once the nutrients blend into the fulvic acid complex, they become bio-active and bio-available.
- Fulvic acid, because of its electrolytic properties, helps to restore the electrical balance that has been disturbed during stress periods."

- Varsha Pushpakaran (B.Sc.)

UNIQUE CHELATED FORMULATION //

Chelation allows the unique supplement to pass through the rumen undegraded for a more energy efficient and functional absorption directly into the bloodstream via the small intestine.



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