

Rationale For Rabbit and Cavy Health Supplement™



GUARANTEED ANALYSIS

Nutrient	Quantity
Crude Protein (min.)	16%
Crude Fat (min.)	7%
Crude Fiber (min.)	17%
Crude Fiber (max.)	18%
Calcium	0.8%
Phosphorus	0.3%
Salt	0.5%
Vitamin C (min.)	0.1%

INGREDIENTS

Alfalfa, Oats, Barley Sprouts, Beet Pulp Prebiotic, Extruded Soy, Wysong Chelamin (Dried Seaweed Meal, Algae Meal and Diatomaceous Earth), Black Oil Sunflower Seeds, Flaxseed, Whole Salt, Vegetable Blend (containing: Carrot, Celery, Beet, Parsley, Lettuce, Watercress, and Spinach), Kelp, Papaya Enzyme, Soybean Oil, Cane Molasses, Ascorbic Acid, Mixed Tocopherols (source of vitamin E antioxidants), Yeast culture, Yucca, Coconut Oil, Dicalcium Phosphate, Magnesium Proteinate, Niacin Supplement, Ferrous Carbonate, Copper Oxide, Choline Chloride, Potassium Amino Acid Complex, Calcium Pantothenate, Manganese Proteinate, Zinc Proteinate, Thiamine Mononitrate, Iron Proteinate, Copper Proteinate, Folic Acid, Pyridoxine Hydrochloride, Vitamin A Acetate, Riboflavin Supplement, Biotin, Cobalt Carbonate, D-Activated Plant Sterol, Cobalt Proteinate, Citric Acid, Dried Bacillus subtilis Fermentation Product, Dried Aspergillus oryzae Fermentation Product, Dried Lactobacillus acidophilus Fermentation Product, Dried Lactobacillus casei Fermentation Product, Dried Lactobacillus lactis Fermentation Product, Dried Enterococcus faecium Fermentation Product.

Feeding Guidelines: 1 to 2 teaspoons daily for small to medium sized rabbits (less than 10 pounds) and cavies; 2 to 3 teaspoons for large rabbits (greater than 10 pounds). Can be fed to adults, does with litters, weanlings and juniors. Dosage may be increased during periods of stress or anorexia. Top dress directly onto pellets.

For best results, Wysong Rabbit and Cavy Health Supplement™ should be fed along with a pelleted rabbit or cavy formulated diet, grass hay and plenty of fresh, clean water.



Wysong Rabbit and Cavy Health Supplement™ is formulated to promote healthy body and coat condition for show rabbits and cavies. It improves reproductive success, digestion and the immune system, as well as boosts nutrients during periods of stress or reduced feed intake.

Wysong Rabbit and Cavy Health Supplement™ contains a special blend of prebiotics, probiotics, and enzymes for healthy digestion, immune strength, and fortification against pathogens. Essential fatty acids (omega-3, -6, and -9) are provided to promote healthy skin and a shiny, finished coat. This nutrient-rich supplement is highly palatable and contains both extruded easily digested nutrients and raw enzyme-active components.

STRESS

Rabbits and cavies inherently are prone to stress, be it from parturition, weaning, excessive heat, or traveling and showing. Stress, in turn, can impair the immune system, create digestive disturbances, cause loss of appetite, and even fatalities. Environment is a key factor in reducing stress, but nutrient supplementation, which can combat the immunosuppressive effects of stress, is also critical.

Immunological functions are the most sensitive and immediate responses to heat stress (Amici, 2000). Studies have shown that utilization of antioxidants during heat stress can improve immune response, which in turn may improve feed intake and reduce loss of body condition during excessive heat. Various sources of antioxidants (including, but not limited to, Vitamin C, Vitamin E, and beta-carotene and lutein from vegetables) are provided in this health supplement. Addition of fats containing essential fatty acids have the potential to reduce heat stress and increase energy intake in hot environments (Maertens, 1998).

DIGESTION

There is a universe of life within the digestive tract. Microorganisms populate the intestines and colon in numbers 10 times greater than the total number of cells in the body itself - over 10 billion per gram of stool. This population of organisms is being increasingly found to have profound effects on overall health, and is believed to exert a variety of subtle effects that can enhance disease resistance. Rabbits and cavies have a symbiotic relationship with the microorganisms in the digestive tract. Beneficial (probiotic) organisms in the diet can increase the population of these organisms in the body, and rebalance and maintain a healthy digestive tract. Additional probiotics can also prevent and resolve digestive disturbances in rabbits such as enteritis and diarrhea. For example, Lactobacillus supplementation has been shown to help alleviate intestinal blockages (Krempels, 2011). Probiotics also encourage appetite. (see Figure 1)

Prebiotics are short chain polysaccharides that preferentially feed probiotic organisms and help impede the proliferation of pathogens.

Yucca decreases the ammonia content of the feces, thus reducing odor in the rabbitry. The improved environmental conditions help reduce respiratory distress.

Papaya enzyme (papain) is helpful in preventing and alleviating stomach and intestinal blockages, commonly known as fur block, in rabbits. The enzyme papain helps reduce the risk of intestinal obstructions (comprised of hair, food particles and mucus). This is especially important for rabbits under excessive stress, in a heavy molt or does pulling nesting fur.

Yeast is an excellent source of B vitamins. Rabbits and cavies with digestive disorders and diarrhea tend to be deficient in water soluble vitamins (such as B vitamins) through excessive water loss. B vitamins are especially beneficial for those prone to digestive disturbances such as weanlings as well as rabbits and cavies under stress. Cecotrophs (soft feces) of rabbits and cavies are rich in B vitamins, but those under digestive stress have reduced consumption of cecotrophs, and therefore are not receiving the needed nutrients for proper health and digestion. Reintroduction of these essential nutrients may help reactivate

the digestive cycle, including boosting appetite. It has also been shown that B vitamin deficiency negatively affects appetite by inducing anorexia and consequent weight loss; reintroduction of B vitamins to the diet induces feed intake, and in turn influences growth parameters and weight gain (Bai, 1971, Voris, 1942).

Digestive enzymes help break down ingested foodstuffs, increase nutrient absorption, and relieve the work load on enzyme secreting organs in the body, such as the stomach, intestines, pancreas, and liver. (see Figure 2)

SKIN AND COAT

Many of the ingredients, including flaxseeds and black oil sunflower seeds, in Wysong, contain essential fatty acids (omega-3, -6, and, -9). Essential fatty acids play critical roles in cell and organelle membrane structure and a wide array of physiological processes. These fatty acids also nourish the skin cells and create a lustrous hair coat. If fatty acids are not available in sufficient amounts or have been degraded to toxins through oxidation, moisture will more readily leak through the skin resulting in physiological dehydration, acidemia, and integument dryness. (see Figure 3)

IMMUNE SYSTEM

The immune system stands between health and disease, life and death. It protects against bacteria, viruses, fungi, parasites, and environmental toxins. Especially for rabbits and cavies, a strong immune system is important in protecting the respiratory and digestive tracts. There are nutrients that specifically enhance immune function. These include a variety of vitamins such as the antioxidants vitamins A, C and E, the B complex vitamins, minerals such as selenium and zinc, and many others. The essential fatty acids, the enzymes and the probiotics included in the Wysong supplement are also important in strengthening the immune system. (see Figure 4)

Yucca saponins have antiprotozoal activity (protective effect against protozoal diseases such as coccidiosis) and they produce an array of antigen-specific and nonspecific immune responses (Cheeke, 1999). Saponins have also been suggested to have immunostimulatory effects (Cheeke, 1999).

Research has demonstrated that yucca nutrients can enhance the function of respiratory tissue by moderating bronchospasm from allergic reactions, increasing mucus flow to expel toxins and infective agents, reinforcing the integrity of blood vessel and alveoli tissue where gases are exchanged, enhancing immune defenses at the interface between atmospheric air and blood, and moderating the immune reaction, allergies, and excessive inflammatory conditions.

Probiotic Nutritional and Health Enhancement Occurs Through:

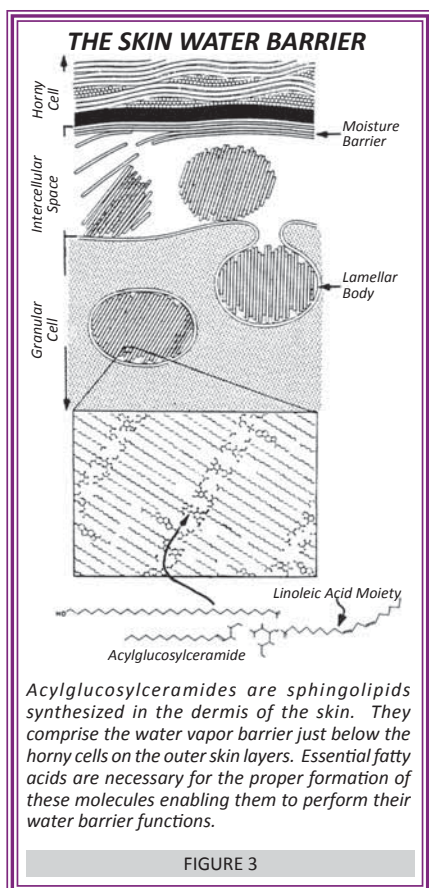
1. *The synthesis of certain amino acids, which are directly assimilated (e.g. lysine from specific strains of L. plantarum).*
2. *Increasing leukocyte and antibody response to disease challenge.*
3. *A protein-sparing effect. The Lactobacilli primarily use carbohydrates as a growth medium, while the pathogens use primarily protein. By decreasing the pathogenic population, more protein is made available for assimilation.*
4. *Decreasing intestinal pH increases gastrointestinal tone and motility.*
5. *Reducing the number of putrefactive bacteria, which prevents gas and bloating.*
6. *Alleviating antibiotic-induced diarrhea, caused by the indiscriminate killing off of both "good" and "bad" bacteria in the gastrointestinal tract. Lactobacillus can be taken both during and after antibiotic treatment.*
7. *Producing B vitamins, such as folic acid, niacin, riboflavin, B₁₂, B₆, and pantothenic acid, which are biocatalysts in food metabolism and help fight stress.*
8. *Studies at the Sloan Kettering Institute for Cancer Research and the University of Nebraska show Lactobacillus to possess a definite anti-tumor activity, and to inhibit tumor proliferation.*

FIGURE 1

Beneficial Effects of Enzyme Therapy (For Animals)

- *Larger offspring and litters.*
- *Better weight maintenance.*
- *Increased resistance to stress.*
- *Better health and performance during gestation and lactation.*
- *Improved recovery from a variety of debilitating disease conditions.*
- *Improved skin condition.*
- *Decreased food sensitivities and allergies.*

FIGURE 2



Vitamin C has been found to reduce the virulence of respiratory diseases in rabbits, as well as possibly helping to prevent enterotoxemia (McWilliams, 2001).

Protein also plays an important role in immune health. (see Figure 5)

REPRODUCTION

Wysong Rabbit and Cavy Health Supplement™ contains many nutrients that can improve reproductive success.

The antioxidant Vitamin E has a long history of improving reproduction for males and females. Deficiency has been linked to low fertility and an increased rate of abortion and stillbirths (Lebas, 2000). Supplementing with Vitamin E can improve semen quality (Velasquez-Pereira, 1998, Yousef, 2003, Castellini, 2007) and libido in males (Velasquez-Pereira, 1998). Vitamin E and Vitamin C fed in combination has also been shown to reduce stillbirths and kit mortality, and acts as an effective defense against oxidative damage to semen (Lebas, 2000, Castellini, 2008).

Flaxseeds contain an array of antioxidants that have also been found to improve sperm quality in males (Mourvaki, 2010, Castellini, 2008).

Yucca has also been shown to reduce stillbirths and to increase neonatal viability (Cheeke, 1999).

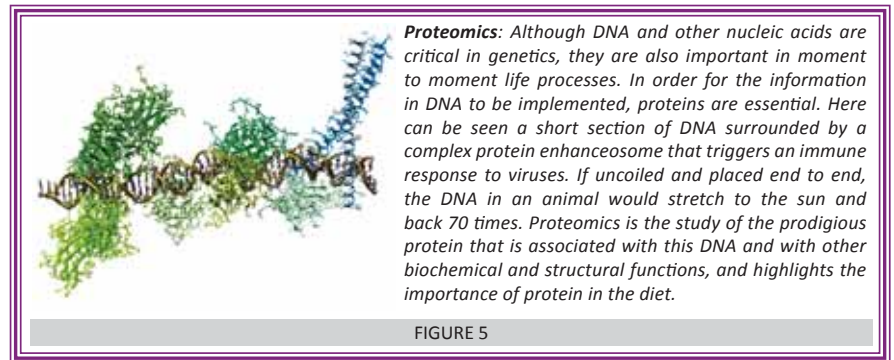
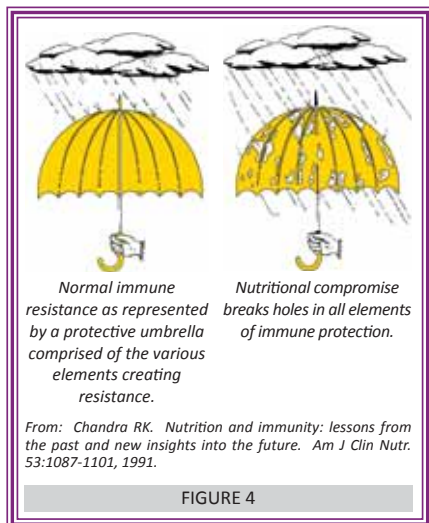
Essential fatty acids and vitamin K are also important for reproductive function (McWilliams, 2001.) Vitamin K deficiency is linked to high abortion rates and a dramatic decrease of blood coagulation in newborn kits (Lebas, 2000).

In summary, the nutrients found in Wysong Rabbit and Cavy Health Supplement cover a wide range of health benefits which are conducive to producing healthy, vibrant rabbit and cavy show and breeding stock.

UNIQUE PACKAGING

If a food has high nutritional value it must, by definition, be perishable. Active vitamins, essential fatty acids, amino acids, carbohydrates, and minerals are all subject to degradation during storage, particularly if also exposed to heat, light and oxygen. It is for these reasons that Wysong has developed the Nutri-Pak packaging system. The individual Nutri-Pak is a pouch made of a special laminate consisting of inert, nontoxic materials. Before the bag is filled, oxygen is removed and replaced with an inert atmosphere, devoid of oxygen. After filling, the pouch is sealed, creating the closest thing to a perfect package presently possible. The Nutri-Pak system serves as a barrier to light and oxygen. Its internal inert atmosphere prevents the oxygen degradation of fragile essential fatty acids, vitamins, minerals, and other nutritional elements. The unique package also functions to prevent light from catalyzing these reactions (since the presence of light can speed fatty acid degradation a thousand-fold) and inhibits the growth of bacteria, molds and pests. Additionally, a Nutri-Clip™ is available to close the Nutri-Paks once opened, to create a barrier to the atmosphere as tight as the original heat-seal bond.

**These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.*



Rabbit and Cavy Health Supplement™ 3



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