

## **Ingredient Rationale: ProAnimal® Antioxidant**

**Vitamin A** - Vitamin A possesses free radical scavenging capabilities. It promotes maturation, tissue building and immune boosting capabilities.

**Spirulina** - Highly nutritious superfood, 65-71% protein, which contains many essential amino acids. Provides antioxidants and other beneficial trace nutrients. It is a source of essential minerals, B and E vitamins, choline, and essential fatty acids. It is also a rich source of beta-carotene.

**Vitamin E** - Vitamin E is a well-established, heavily researched antioxidant essential to the survival of cell membranes. It blocks cross-linking of cell membranes and thus helps preserve cellular vitality.

**Vitamin C** - Vitamin C is an antioxidant and it is necessary for structural amino acids to be built into cartilage. Ascorbic acid stimulates the formation of hydroxyproline by activating the enzyme prolyl hydroxylase. Hydroxyproline is an integral element of connective tissue. Without vitamin C, the connective tissue formed is soft and infirm.

**Cysteine** - An essential sulfur containing amino acid. Cysteine works synergistically with glutathione in the liver to detoxify carcinogens and other dangerous chemicals. This amino acid binds to toxic heavy metals. Many of the metals are also pro-oxidants, which accelerate aging and hasten the onset of health problems associated with getting older. Cysteine helps “pull them out” before they can damage vital tissue.

**Glutathione** - A peptide containing three amino acids produced by the body. It is found in every cell of the body and protects cells in many ways. It neutralizes oxygen molecules before they can harm cells as free radicals. It combines with selenium to form the enzyme, glutathione peroxidase, which neutralizes hydrogen peroxide (dangerous to the cells).

**Manganese** - Manganese serves as an antioxidant as part of manganese-based superoxide dismutase. It is essential for the incorporation of essential sugars into the mucopolysaccharides (elastic connective tissue and lubricating fluids in the body) and is needed in the metabolism of fatty acids and cholesterol.

**Zinc** - An antioxidant necessary for healing. It is essential for the synthesis of bone tissue, healthy skin and immune function. It has been greatly depleted in our agricultural soils over the years because it was not recognized as being of great importance until it was too late. Supplementation is about the only way to achieve optimum intake.

**Copper** - Required to convert the body’s iron into hemoglobin. Essential for utilization of vitamin C. It can help keep your energy up by aiding in effective iron absorption.

**Selenium** - Selenium is a well-researched nutrient, which has been identified as an essential component of the antioxidant enzyme glutathione peroxidase (GSH). This is one of the triumvirates of enzymes within the cell along with superoxide dismutase (S.O.D.) and catalase which are continually required to disarm active forms of oxygen free radicals generated during the oxidative, energy producing cycles within the cell.

*Do not use this product in the Bedlington Terrier or other breeds with Copper storage disease (copper toxicosis).*