



DAWE'S LABORATORIES

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DAWE'S LABORATORIES INTRODUCES

ACE PLUS

Dawe ACE contains the **anti-oxidant Vitamins C, E and beta-carotene** because these vitamins, more than any others, are needed in excess of normal requirements during times of stress.

Vitamin E works in the fat-soluble phase and vitamin C works in the water-soluble phase, making it a perfect match. In situations where the animal is exposed to excessive heat or cold, **disease challenges**, vaccination, rapid growth, very heavy production, handling and moving, or similar stresses, there is an increased need.

Our new product, **ACE PLUS** contains C, E, and beta-carotene like Dawe ACE, **PLUS** vitamins and minerals important for immune function and healing (**A, D, Biotin, Pyridoxine, Pantothenic Acid, Zinc**).

Vitamin C (ascorbic acid) is produced in the body at adequate levels in most adult animals. But with very young animals not yet producing enough vitamin C or animals under any kind of stress, the requirement exceeds the amount being produced. So any stress or combination of stresses could result in a deficiency, especially in the very young.

Vitamin C is important for:

- Resistance to infection.
- Resistance to stress.
- Steroid hormone synthesis and blood coagulation.
- Regeneration of oxidized vitamin E.
- Anti-oxidant reactions to reduce free radical damage.
- Formation and function of bone, cartilage, skin.

Typical deficiency symptoms include increased **susceptibility to infection, reduced healing of wounds**, anemia, increased heat or cold induced mortality, fatigue, reduced appetite, and weakness.

Vitamin E is not produced in the body so it must be provided in the diet.

Vitamin E is important for:

- Antioxidant - prevents oxidative damage to phospholipids in cell membranes and fat soluble vitamins.
- Stimulation of **antibody formation**.
- Regulation of carbohydrate metabolism, muscle metabolism, development and function of the gonads and some hormone metabolism.
- Prevention of rancidity in fats.

Deficiency symptoms vary with species. Examples include: **immunodeficiency**, loss of appetite, slow growth, encephalomalacia, exudative diathesis and other nervous system or circulatory system disorders.

Zinc is important for protein, carbohydrate and lipid metabolism, and is a component of insulin. Deficiency results in **reduced resistance to disease, slowed wound healing**, enteritis and slowed growth.

Vitamin A helps maintain the health of the membranes of the eyes, respiratory and digestive systems – the first line of defense. It is also important for the production of corticosteroids to combat disease.

Vitamin D also helps maintain cell structural integrity and promotes cellular and humoral **immune response**.

Pyridoxine, Pantothenic Acid and **Biotin** are important in protein and lipid metabolism, including membrane **growth and repair**, and **antibody synthesis**.