PEAK FORM

NUTRITIONAL SUPPORT

CONDITION & PERFORMANCE

PEAK FORM is a high quality protein supplement, enhanced with natural plant extracts, to maintain and enhance body condition and performance in active-, athletic-, working-, and show pets. It may also be used by pets recovering from illness, injury, malnourishment, or ageing pets, to improve protein balance, support cellular regeneration, help maintain muscle tissue, and enhance general well-being.

WHEY PROTEIN CONCENTRATE

The ancestral diet of dogs is characterized by an average consumption of 52% protein, 47% fat and 1% carbohydrates of ME (metabolisable energy). Cats’ natural diet comprises 52% protein, 46% fat and 2% carbohydrates. According to AAFCO, the minimum recommended allowance of crude protein, as percentage of the daily nutrient intake, is 18% for adult dogs and 26% for cats. Commercial pet foods contain between 18-34% protein; more protein than the minimum recommended amount. However, since protein is the most expensive macronutrient, many of these foods unfortunately contain poor quality, incomplete protein sources which often are not digested well. Insufficient protein or poor quality protein diets may predispose the animal to poor condition, muscle wasting, osteoporosis, impaired recovery after injury or training, and decreased mental ability. Protein-rich diets have multiple health benefits, promote a healthy body condition, and help to maintain general well-being.

WHEY PROTEIN CONCENTRATE is a natural constituent of milk. It is considered a complete protein source, containing all amino acids required for healthy physiological function. Protein is an essential component of all living cells, and a substrate for a multitude of physiological processes. Whey Protein have significant anti-inflammatory-, antioxidant-, and immune-modulating properties. It:

- enhances protection against toxins, viruses, and bacteria,
- reduces the risk of various cancers,
- promotes cardiovascular-, liver-, digestive- and hormonal health,
- maintains healthy skin and bone,
- supports healthy body weight,
- promotes a sense of well-being, and
- stimulates muscle regeneration and functional adaptation. Whey protein contains amino acids which form vital structural components in muscle cells, ligaments and tendons. It is rich in amino acid leucine, which helps to reduce muscle breakdown under stressful conditions, and stimulate muscle protein synthesis4. Sufficient protein enables your pet to improve muscle composition and physical strength, especially when combined with regular exercise. Whey protein promotes a leaner, muscular, and healthy body condition. 1-5

BCAA ( Branched-Chain Amino Acids)

BCAA's are essential amino acids called Leucine, Isoleucine and Valine. They are rapidly absorbed and metabolised in muscle tissue where they have a pronounced effect on muscle function, regeneration and muscle mass.

BCAA's supports physical and mental performance by:
- Enhancing mental and physical energy, through its availability as fuel substrate for the brain and muscles, sparing muscle glycogen as fuel for high intensity activity, and promoting fat metabolism as fuel for active muscles. These benefits enhance endurance capacity and physical performance11,12.
- Inhibiting muscle degeneration: BCAA’s help to minimize the production of stress-induced cortisol and inflammatory mediators and protect against inflammatory muscle degeneration and age related muscle wasting6,13.
- Stimulating muscle cell recovery and hypertrophy: BCAA’s stimulate adaptive responses in skeletal muscle in response to physical activity, enhancing post exercise recovery, muscle strength and size7-10.
- Supporting immune function: BCAA’s are fuel substrates for immune cells, and are essential for immune cell development and responsiveness. During catabolic states (injury, illness, infection, ageing, intensive physical activity) the body’s requirement of protein and amino acids significantly increases. If there is a sub-optimal supply of amino acids, susceptibility to infections are increased. An adequate supply of BCAA’s is therefore necessary to support and strengthen immune function during challenging conditions.
Siberian Ginseng (Eleutherococcus senticosus)

Siberian Ginseng root is an exceptional adaptogen, and is valued as one of the highest esteemed medicinal plants. An adaptogen can be described as a substance which exhibits a non-specific enhancement in the body's defence systems against external and internal stress factors. It increases the body's resistance to stress, fatigue and disease, and helps to maintain biological balance, with minimal side effects.

Siberian Ginseng’s adaptogenic and performance-enhancing effects related to physical activity:

- **Increased resistance to various types of stress:** Physical, mental, emotional or environmental stress, expose a living being to multiple physiological challenges. Depending on severity, duration of exposure, and the animals resilience, these challenges may disturb the biological balance, and predispose the animal to chronic inflammatory disease and fatigue. Canine athletes, working-, and service dogs often experience physical, mental, and emotional stress, which challenge their health and well-being. Siberian ginseng is a powerful adaptogenic herb. It can reduce fatigue, and enhance performance in spite of challenging circumstances like intensive physical activity. Siberian ginseng reduces exercise-induced cortisol elevation and inflammation, minimising the adverse physiological effects of emotional and physical challenges, and increasing general resistance to stress.

- **Anti-fatigue & performance enhancing:** Siberian ginseng’s performance enhancing effects can be attributed to its ability to reduce muscle damage, inhibit elevation of blood urea nitrogen levels, and increase utilization of fats as energy source. Its anti-fatigue effects may also be related to its antioxidant actions.

Spirulina (Arthrospira platensis)

Spirulina is a highly nutritious blue-green algae, and is considered a super food. It contains superior concentrations of protein and essential amino acids, carbohydrates, fatty acids, vitamins, minerals, multiple phytoactives, and chlorophyll. These nutrients function in synergy to support multiple physiological systems and promote general health.

- **Antioxidant protection:** Intensive physical activity promotes the production of reactive oxygen species and oxidative damage, which contribute to muscle inflammation and fatigue. Spirulina increases the levels of antioxidant enzymes and antioxidants like GSH (reduced glutathione), Vitamin C, and Vitamin E, which contribute to muscle inflammation and fatigue. Spirulina enhances protection against oxidative muscle damage and fatigue.

- **Enhances muscle performance and endurance capacity:** Spirulina benefits physical performance by promoting muscle regeneration and muscle size, encouraging fat metabolism as muscle fuel whilst sparing muscle glycogen stores, enhancing power output, improving endurance capacity and hence, reducing time to fatigue.

REFERENCES

22. Efficacy of Spirulina Supplementation on Isometric Strength and Isometric Endurance of Quadriceps in Trained and Untrained Individuals – a comparative study