



Alpine Velvet

Top-Quality Elk Antler Nutritional Supplements

Research Summary on Velvet Antler

On this page, we have provided a summary of information on velvet antler. If you are interested in reading more about velvet antler and its benefits—and we suggest that you do—you may want to look at our [links page](#).

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Alpine Velvet products are unique in that we separate each antler into different sections based upon traditional practices. We are confident that as you learn about velvet antler, you will understand why we follow this traditional practice. Alpine Velvet Flex Appeal Ultra is "top-quality."

Alpine Velvet antler products work for us. We have seen changes in our lives, in the lives of our family and friends, and in the lives of our animals. We think you will too!

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Introduction

For over 2000 years, velvet antler has been used to promote health and well-being. The first recorded use of velvet is linked to a Han tomb in Hunan Province. There, a silk scroll was discovered that listed over fifty different diseases for which velvet antler was prescribed (Davidson, 2001).

In 1596, Li Shi-Zhen described in detail the many ways in which antler could be used for improved health. (Kamen & Kamen, 1999; Davidson, 2001). This book remains in use among Chinese herbalists to this day.

Interest in velvet antler has increased over the last decade as modern-day scientific studies have begun to evaluate and substantiate many of these traditional claims. In recent years, more than 250 articles have been published on the use, composition, and biochemical effects of velvet antler (Kaman & Kaman, 1999).

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Benefits of Velvet Antler

Velvet antler has been attributed with success in promoting many health benefits. Dr. Betty Kamen (Kamen & Kamen, 1999) reports that velvet antler is

being used to encourage:

- arthritis relief
- muscle development
- increased strength
- increased endurance
- red blood cell production to correct anemia
- capacity of blood to carry oxygen
- speedy recovery from injury and stress
- faster recuperation after surgery
- augmented levels of certain anabolic hormones
- enhanced immune activity
- fertility

In a report for the Alberta Elk Association, Dr. John S. Church, game farm manager for Canadian Rocky Mountain Resorts, (Church, date unknown) addressed and substantiated the scientific validity of many traditionally held beliefs:

- antler amplifies the body's metabolism in general
- preserves and renews injured organs and tissues by accelerating healing and recovery from injury
- assists immune and phagocyte functions (anti-inflammation, anti-arthritis, anti-stress)
- moderates the aging process
- has hypotensive-vascular effects
- ameliorates both gonadatropic and thyroid function

Many other studies and reports suggest that the uses of velvet antler are far-reaching. It is interesting to note that many researchers, including Kamen and Church, believe that the components in velvet antler create a synergistic effect: in concert they provide greater benefits than each individual component would produce were it taken alone. Dr. Betty Kamen said, "There is no single active ingredient that defines the special quality of velvet antler."

Studies have also shown that velvet antler is well-tolerated. A New Zealand study on the toxicity of antler (Zhang et al, 2000), concluded that there were no observable toxicological effects in the study subjects. According to Kamen (Kamen & Kamen, 1999), the only known adverse side effect of consuming velvet antler is an upset stomach when antler is taken in very high doses. Symptoms disappeared when the dose was discontinued.

Velvet antler has been consumed by humans for thousands of years. In fact, some researchers, like Dr. Betty Kamen believe that our modern-day diet has created a need for supplements like velvet antler:

"For millions of years humans and human ancestors ate nearly all of the animals they killed. Blood, brains, organ meat, connective tissue, bone marrow, and every body part were all consumed, and consumed raw. It's only in the last 125,000 years that people began cooking food on a regular basis, only in the last 10,000 years that cereal grains like wheat and rice became dominant in our diets, and only in the last century or two that non-meat animal components have been left off the plate. Velvet antler is a way of putting back some of the things we're missing, things that our bodies are designed to thrive on. We can't bring fresh-killed animals home to our kitchens, even if we wanted to. But we can take antler supplements," (Kamen, 2000).

Velvet Antler and Animals

Although most studies have evaluated the effects of velvet antler upon humans, there have been a number of animal studies too. Dr. Clinton J. Balok, a practicing veterinarian in Gallop, New Mexico has reported success with velvet antler treatments in both dogs and horses. According to Balok, velvet antler has a place in treating a number of osteoarthritic and musculoskeletal conditions in animals (Balok, 2001).

Other researchers reported similar successes with velvet antler at a symposium in Banff, Alberta in April 2000 (Kamen, 2000).

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Components of Velvet Antler

Velvet antler is a rich source of many of the minerals and nutrients our bodies need. It contains calcium, phosphorus, sulfur, magnesium, potassium, sodium, manganese, zinc, copper, iron, selenium and cobalt. It also contains the major amino acids, collagen, prostaglandins, glycosaminoglycans, chondroitin sulfate A, gangliosides, lipids, and many other components (Davidson, 2001; Batchelder, 2000; Kamen & Kamen, 1999; and others).

Collagen

Collagen, which comprises the bulk of the developing antler, provides antler with its elastic qualities. There are at least 18 different types of collagen. Hansen states, "We expect that the collagen in velvet antler, by analogy to growing bone is primarily type II" (Hansen; 1998). He believes that there is sufficient substantiation for a statement of nutritional support for velvet antler regarding collagen and osteoarthritis and rheumatoid arthritis.

Other researchers agree. According to Dr. Kamen (1999), "Both osteoarthritis and rheumatoid arthritis are associated with the loss of the ability to synthesize or maintain collagen type II. Collagen type II has been useful in reducing the autoimmune reaction that causes the inflammation of rheumatoid arthritis. It does this by assisting in the manufacture of immune cells that reduce the inflammation."

Prostaglandin

Prostaglandins are produced from essential fatty acids. They are hormone-like in that they produce a wide range of effects within the body. Prostaglandins in velvet antler play a role in the reduction of swelling associated with arthritis, injury, infection and pain. Prostaglandins may also lower cholesterol through lipid metabolism (Kamen & Kamen, 1999).

Glycosaminoglycans (GAGs)

Gags, specifically chondroitin sulfate (CS), the most prominent GAG in velvet antler, are used widely by those with arthritis with excellent results (Batchelder, 2000). CS is a potent anti-inflammatory agent.

Glucosamine is a small molecule and is readily absorbed when taken orally. It is rapidly metabolized by the body (Hansen, 1998). Hansen suggests that the glucosamine found in antler also supports joint structure and function.

Glucosamine sulfate (GS) is a component of chondroitin sulfate. GS is an amino

sugar whose absence in the body has been linked to early aging according to Kamen & Kamen (1999). GS serves as a building block of proteoglycans.

Proteoglycans, along with collagen, form the matrix that gives human cartilage its special mechanical properties. Proteoglycans are long molecules that absorb and release water, providing joint resiliency. In osteoarthritis, the loss of proteoglycans results in damage to the cartilage surface (Kamen & Kamen, 1999).

In 1999, the FDA recognized that velvet antler provides nutritional support for joint structure and function. Hansen (1998) reported that good scientific support exists for this claim because velvet antler is a significant source of chondroitin sulfate and CS can significantly affect symptoms of arthritis.

Other Gags in velvet antler include keratin sulfate, hyaluronic acid, dermatan sulfate, chondroitin sulfate proteoglycan and decorin (Batchelder, 2000).

Hyaluronic acid forms the spine of the proteoglycan molecule. Hyaluronic acid is a key component of the fluid found in joints. Researchers have found that injections of hyaluronic acid produce rapid pain relief and improved mobility in osteoarthritis. According to Kamen and Kamen (1999), "Hyaluronic acid not only has anti-inflammatory and analgesic properties, it promotes anabolic behavior in chondrocytes."

Chondrocytes are living cells within the joint cartilage. They help manufacture proteoglycans which include chondroitin sulfate, keratan sulfate, hyaluronic acid and other glycosaminoglycans (GAGs). Arthritis treatments which support the function of chondrocytes are known as chondroprotective.

GAGs serve as a marker. They suggest the presence of other substances. The implication is that velvet antler as a whole food is a better choice than simply taking a form of Gags alone. CS works with other velvet antler components to increase its chondroprotective efficiency (Kamen & Kamen, 1999).

IGF-1

IGF-1, or insulin-like growth factor, provides the body with the precursors for human growth hormone. Growth hormone causes tissue to grow and causes stored energy (fat or sugar) to be consumed. Extracts of velvet antler were found to stimulate the growth of nerve fiber and to induce changes that affect DNA synthesis. This plays a role in counteracting the effects of aging. Additionally, IGF-1 encourages the absorption of chondroitin sulfate and glucosamine sulfate (Kamen & Kamen, 1999).

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Antler Regions and Antler Components

The concentration of antler components varies within the antler from base to tip and upon the time of harvest. Antler calcifies from the base up and as the season progresses.

Traditionally, different regions of the antler have been used for different purposes. The upper sections have been used for pediatric tonics and for

degenerative inflammatory conditions. Lower sections have been used for preparations for the elderly to increase calcium intake and for those who respond to lower dosages of prostaglandins (Batchelder, 2000; Kamen & Kamen; 1999; Church, date unknown).

Proteoglycan, a combination of protein and carbohydrate, are the predominant carbohydrates in antler. Of the antler's carbohydrate portion, glycosaminoglycan (GAG) predominates with chondroitin sulfate (CS) the major constituent. The tip and upper sections of the antler contain more Gags than the base. Additionally, the molecular weight of CS in the tip and upper sections of the antler is lower. CS with lower molecular weights appears to be better absorbed by the body than CS with higher molecular weights (Hansen, 1998).

Kamen and Kamen (1999) report that glucosamine sulfate (GS) concentrations are six times greater in the tip and upper sections than in the middle and base sections of the antler.

Amino acid concentrations are higher in the tip section. In general, protein and lipids decrease from the tip to the base of the growing antler. IGF-1, a natural growth hormone, plays a key role in cell division in the growing tips of the antler and the cartilage zone. (Church, date unknown).

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How Velvet Antler is Harvested

Antlers are grown annually. They are found on members of the Cervidae family. They grow on permanent pedestal-like projections from the frontal skull bone. Unlike the horns found on cattle and other bovids, antlers are cast off each year.

Antlers begin as rapidly growing cartilage. As the season progresses, the cartilage is replaced by bone. Antler may grow at a rate of several centimeters per day. In the first 75 days of growth, a domestic elk may produce as much as 20 to 40 pounds of new antler tissue (Forrest, 1998).

Antler from red deer and elk is chemically identical. In the United States, commercial antler is harvested primarily from domestic elk. All domestic elk in the US must come from private herds.

At Alpine Velvet, antler is surgically removed from adult male elk. Animals are treated with a pain-suppressing injection just like that used by dentists. The entire process takes about 15 minutes. The animals show no ill-effects from the treatment. Within a few hours they return to the herd and feed and interact with people and other animals normally.

We treat our animals well. They receive the best of care. Removing antler in a domestic herd helps prevent injury as the season progresses. Animals with hard antler can be difficult to manage and can cause serious injury to themselves and others.

Animal Health

Our animals are tested regularly. Colorado has some of the strictest health testing standards for domestic elk herds in the nation. Health testing is administered by the Colorado State Veterinarian. If you are interested in more information about our testing program, please feel free to [contact us!](#)

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