



## ***Joint Relief for Pets***

***with New Zealand bee venom VENZ™***

*( Natural power for joints and muscles pain relief )*

Auckland 2005

## **Product information**

**Joint Relief for Pets** is completely natural product of New Zealand.

The well-known anti-inflammatory properties of bee venom in combination with New Zealand honey and Fish oil make the product a very beneficial for joint and muscles relief for dogs, cats and even thoroughbred racehorses.

**Every 500 g jar of Joint Relief for Pets** contains 25 ppm ( or 12.5 mg ) fresh New Zealand bee venom “VENZ™” ; 2 % of fish oil rich in Omega-3 fatty acids and Vitamins A and D which help to pet's immune system, bone growth and work to lesson joint inflammation.

**Every 250 g jar of Joint Relief for Pets** contains 25 ppm ( or 6.25 mg ) fresh New Zealand bee venom “VENZ™” ; 2 % of fish oil rich in Omega-3 fatty acids and Vitamins A and D which help to pet's immune system, bone growth and work to lesson joint inflammation.

The product is good for pets suffering of joints and muscles diseases, functional disorders of muscles and chords. BV honey provides a very strong pain relief and anti-inflammatory effect. Taken regularly, over the time it helps minimize joint discomfort and helps maintain and restore joint mobility.

### **Bee venom dosage in Joint Relief for Pets**

The bee venom dosage requirements were based on the research results and apitherapy tests conducted in a number of countries.

Concentration of bee venom in 500 g and 250g jars of honey is 25 ppm ( part per million ). This figure is equals half a sting (0,5 sting ) in a teaspoon of honey.

The major advantage of creamed honey as a carrier is that its consistence helps to increase the time honey with venom dissolves in the mouth, and, therefore, the therapeutic effect of the bee venom product is much higher. (The dissolving time of liquid honey is much shorter). This is the most important factor of honey with venom consumption. When liquid honey with venom is quickly swallowed or dissolved in the mouth, its therapeutic effect will be decreased, and if taken with water there will be no effect at all, because the stomach ferment (pepsin) will destroy all venom ingredients.

### **How to take Joint Relief for Pets**

Put it into dry food, dip a cube of meat with honey, or give it on a cracker biscuit. We would recommend the first intake should be half teaspoon a day for small dogs and cats. For large dogs – full teaspoon a day. For horses 1 tablespoon a day. If no allergic reaction occurs, increase the dosage gradually depending on pet's condition.

### **General information about bee venom**

Honeybee venom is a well-known pharmacologically active product of the hive. It is a product of the secretion activity of a special gland in the body of working honeybees. Freshly collected bee venom is a transparent, light-yellow liquid with a bitter burning taste and a strong smell.

Bee venom is a unique multi-component complex, which contains about 18 biologically active compounds, some of which are practically impossible to get synthesized by chemical methods

(Fig.1). Nowadays the majority of biologically active compounds are well studied, their useful properties are discovered (Krilov, 1995; Schmidt, 1996)

The most powerful bee venom ingredients are:

1. **Melittin** - ( 40-50 % ) – the most potent anti-inflammatory peptide
  - Bee venom VENZ contents 55-60 % in comparison with other overseas bee venom.
  - Melittin stimulates the hypophyseal-adrenal system and produces cortisone.
  - It is 100 times more potent than hydrocortisone (Couch, 1972; Knepel et al., 1987; Vick et al., 1972, 1975).
  - Melittin also stabilizes the lysosome cell membrane to protect against inflammation (Shkenderov et al., 1986).
2. **Peptide 401** – 2 % - strong anti-inflammatory peptide.
  - Peptide 401, or MDC peptide, blocks the arachidonic acid and inhibits prostaglandin synthesis (Hanson et al., 1974; Neubould, 1963; Surfer et al., 1973)
3. **Apamin** - Apamin works like melittin to produce cortisone (Vick and Shipman, 1972), and inhibits the complement system, C3, which is involved in inflammation (Gencheva et al., 1986).
5. **Cardio peptides** – anti-arrhythmic agent.
6. **Dopamine** – a neurotransmitter that increases motor activity.
8. **Adolapin** - Has very strong analgesic effect

### **How does bee venom work?**

Bee venom peptides have systemic action: anti-inflammatory, anti-fungal, anti-bacterial, anti-pyretic, stimulating vascular permeability.

There are different mechanisms of bee venom action in the body – indirectly through hormone system and directly on cardiovascular system.

#### **1. Indirectly, through hormone system.**

The healing effect of bee venom is caused by its stimulating the function of adrenal gland indirectly through hypophysis. Due to this stimulation process more adrenal hormones such as cortisone and hydrocortisone are generated in blood. These hormones provide healing effect, increasing resistibility of the body against various unfavourable factors. But, bee venom healing action not only connected with stimulation of adrenal gland but also with direct action to cardiovascular system.

#### **2. Directly, through cardiovascular system**

- it widens blood vessels and decreases blood pressure.
- bee venom is very effective against hypertension.
- reduces blood coagulability and increases hemoglobin level.

Russian scientists have discovered that bee venom contributes to capillary vessels and small artery distention, increasing the blood surge to the organs and promoting metabolism improvement. Since bee venom increases the content of haemoglobin and leukocytes in blood and decreases blood thickness and coagulability, it can be very helpful for people having susceptibility to trombophlebitis. Bee venom promotes decrease of cholesterol content in blood, provides tonic effect for a heart muscle, and decreases blood pressure.

It improves patients overall state of health, appetite and sleep, increases vitality. It is good for body strengthening and pain relief.( Krylov,1995 )

### **Bee venom honey as a food supplement for pets.**

For the first time in New Zealand new health product for pets with bee venom for internal use has been developed and produced. This is honey with bee venom and fish oil. Taking this product provides an alternative method of achieving the same health benefit of bee sting therapy but without the pain.

Production technology has been developed by Dr. Nikolai Nikolaev. He was the first in New Zealand to suggest utilizing dry bee venom powder for making honey based products and later developed the technology of mixing both liquid and dry honey with dry bee venom. The safe and beneficial for health dosage of bee venom in the products was scientifically substantiated. This technology was recognized as innovative (NZ patent #333790). The main advantage of this technology is the possibility of standardization of bee venom dosage in a final product. Another advantage is preservation of biologically active components of honey and bee venom and their healing properties during a long period of time

### **FISH OIL**

Fish Oil is widely recognized as one of the best natural sources of Omega 3 fatty acids. These compounds have been shown to be beneficial for temporarily relieving the pain of arthritis, maintaining peripheral circulation, reducing inflammation and improving skin conditions like eczema and rashes.

### **Basic or clinical research performed previously on our products**

During the last seven decades, over 1700 scientific publications on the composition and various effects of bee venom therapy in animals and humans have been published. Overwhelming amount of the publications come from Eastern Europe and Asia. The employment of various animal models is a popular method of conducting such research. In models (normally using laboratory rats) various inflammatory agents are injected into a joint to cause inflammation, a condition referred to as adjuvant induced arthritis ( Schmidt & Buchman , 1992 )

Research conducted by Y. Chang & M. Bliven in 1979 determined that whole bee venom not only reduced inflammation, but also prevented the development of arthritis in rats. A single dose of bee venom was administered subcutaneously the day before or the day of the introduction of the adjuvant. The bee venom was found to effectively suppress the development of arthritis.

O. Lorenzetti, B. Fortenberry and E. Busby achieved similar finding in their research in 1972. In this research bee venom was administered to rats three times per week beginning two weeks before or one week after introduction of the adjuvant. Swelling, lesions and inflammation were noticeably decreased in rats treated with bee venom.

Research conducted by J. Eiseman, J. VonBredow, and A. Alvares in 1981 demonstrated, that bee venom (when administered daily for twenty-four days) has the ability to suppress but not abolish the inflammation of rat paw arthritis.

**A study with whole bee venom on arthritis dogs**, suffering from hip dysplasia (Vick and Brooks, 1972) and rats (Dunn, 1984) showed that cage activity of the arthritis dogs increased by as much as 70 % following the therapy. The blood monitoring indicated that melittin and apamine stimulated the production of the plasma cortisol. Together with various other arguments, this suggests that many of

the curative effects of bee venom may work through stimulation of the body's enzyme and immune system, in a way similar to the common drug cortisone. Cortisone has been used in the treatment of many ailments, but it is also known to have strong, undesirable side effects. Melittin also appears to have toxic side effects, as do some of the other individual compounds in venom. When whole venom is applied however, no side effects have been shown, other than in allergic patients (Broadman, 1962 and Weeks, 1992 personal communication).

Such studies need to be viewed with caution however, as it is not always easy to extrapolate animal model results to human situations. Many anecdotal reports exist already about the benefit of using BVT for people suffering arthritis, a disease that affects many people and causes considerable disability and health care expenditures.

Recently, after long efforts by the American Apitherapy Society and its members, some interest has been shown by national institutions in several Western European countries and the USA for clinical and large scale tests of bee venom therapy.

At the 44<sup>th</sup> Annual Scientific Conference of the Australian Rheumatology Association (2001) using bee venom honey against joint and muscle problems was mentioned along with the traditional medicine remedies.

“Two Australian therapies carried out a double blind crossover trial of bee venom in Manuka honey versus Manuka honey in arthritis. This carefully performed study involved 94 patients (58 with osteoarthritis and 36 with rheumatoid arthritis). The bee venom and honey or honey alone was taken over 4 weeks with 6-week washout period and a further 4 –weeks crossover treatment. Seventy-eight patients completed the study. There was significant improvement in pain in osteoarthritis but not in rheumatoid arthritis and in mobility in both osteoarthritis and rheumatoid arthritis. In summary, bee venom in Manuka honey seemed to be effective in reducing pain and increasing mobility in arthritis, but the magnitude of the effect was not so effective.” (From the Report from the 44<sup>th</sup> Annual Scientific conference of the Australian Rheumatology Association).

A good summary of the scientific studies. with further references can be found in Banks and Shipolini (1986) and Schmidt (1992). Summaries of some of the major specific effects of the various venom compounds that are shorter and more easily understood, can be found in Lund and Mraz (1983), Dotimas and Hider (1987), Crane (1990) and Schmidt and Buchniaflfl (1992).

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