Power of The Beehive

By J.S Taylor

An introductory look at the four products from the beehive - Royal Jelly, Bee Pollen, Propolis and Honey

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Introduction.

As honeybees buzz from blossom to blossom and back to the hive they are creating some of the most powerful natural ingredients known to man.

Centuries of use and research have failed to uncover the secrets to the potency of bee products when used as food or dietary supplements. Likewise, the longevity of the honeybee remains something of a mystery. The Queens remarkable reproductive powers and lifespan are of significance, but also the way the entire population has withstood the persistant efforts by mankind to abolish the species. Not deliberately of course, but the continued use of crop pesticides and chemicals has placed the little insects very survival in jeopardy. Colony collapse disorder is still a very serious issue, but it seems that the remarkable ability of this insect to withstand all attempts at erradication is winning through. The bees, using the very substances that we crave for nutritional support, have found a way to combat the impact of man-made chemicals and adapt their immune systems to withstand the threat. The hive population is bouncing back from the brink, their ability to protect themselves a testament to the potency of the substances found within the hive.
Over the coming chapters we will learn more about the tools the honeybee has at its disposal, and the way man can benefit from the same tools to improve health and guard against the many challenges to the health of our immune systems.

ROYAL JELLY

Royal Jelly is a creamy white substance synthesized by the common worker bee for the sole nourishment of the Queen bee.

The Queen bee is remarkable in its extended longevity and reproductive capability when compared to the worker bee. The Queen lives almost ten times longer then the worker bee: five years for the Queen, and less than six weeks for the worker bee. The Queen grows to be almost 50% larger than the worker and has exceptional reproductive capabilities, laying almost 2500 eggs in a single day.

So how does the Queen bee achieve this remarkable longevity – **Royal Jelly**. The Queen is hatched from the same egg as the worker bee but is selected to receive a diet of pure royal jelly, while the common worker bee feeds off honey and other substances around the hive. Royal Jelly transforms the queen into an incredible insect, enhancing its physical performance to remarkable levels.

Not surprisingly, man has shown much interest in this substance, regarding it as the ‘elixir’ or ‘crown jewel’ of the hive. Many studies have been performed to try to establish its nutritional content and the effect of its nutrients on living beings.

Despite these extensive studies, the actual chemical make-up of royal jelly is still something of a mystery.

Royal jelly is the only natural source of pure acetylcholine. It has antibacterial and antimicrobial properties and has been implicated as beneficial in a wide range of health conditions. It is associated with benefits to bronchial asthma, insomnia, and many skin problems. It is known to support the immune system and may be of benefit in liver, kidney, and pancreatic diseases as well as stomach ulcers and bone fractures.

What is the chemical composition of Royal Jelly? - Royal Jelly contains approximately 12% protein, 5-6% lipids and 12-15% carbohydrates. It’s B Vitamin content is high, and with 17 amino acids, including all 8 essential amino acids, it is a nutritious hormone-rich substance with a wide spectrum of potential benefits. Royal Jelly also contains around 15% aspartic acid, which is important for tissue growth, muscle and cell regeneration.

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Vitamin Content
Vitamin B I (Thiamine) ..... 1.5 to 7.4 mcg.
Vitamin B2 (Riboflavin) ..... 5.3 to 10.0 mcg.
Vitamin B6 (Pyridoxine) ..... 2.2 to 10.2 mcg.
Niacin (nicotinic acid) .....91.0 to 149.0 mcg.
Pantothenic Acid .....65.0 to 200.0 mcg.

Biotin ..... 0.9 to 3.7 mcg.
Inositol .....78.0 to 150.0 mcg.
Folic Acid ..... 0.16 to 0.50mcg.
Vitamin C .....Trace

The amino acids in royal jelly are of significant interest to nutritionists. Long associated with the ability to fight 'free-radicals' in the body, amino acids form the very basis of our chemical make-up, and are essential to growth and the ability to fight infection and disease. In most cases we cannot create our own amino acids, we must ingest them through the foods that we eat. The importance of amino acids and the fact that they are so abundant in bee products warrants special attention. It is in our section 'Amino Acids' that we will reveal the true potential of Royal Jelly as a nutritive substance that is rich in amino acids.

Royal Jelly and our health:- Royal Jelly (along with bee pollen, propolis and honey) contains a natural source of essential nutrients which the body needs to maintain good health. Maintaining good health is especially hard in today's increasingly toxic environment. Both our food supply and our diet is often deficient in important nutrients. Therefore, we need to supplement our diet with products such as royal jelly and the other products of the beehive

Royal jelly also has a yeast inhibiting function which may prevent conditions such as thrush and athlete's foot. It is also used to treat muscular dystrophy, MS and Parkinson's disease as well as reduce allergic symptoms and help control cholesterol levels.

Also of significance, Royal Jelly has been found to be of great help in boosting the body's resistance to the harmful side effects of chemotherapy and radiotherapy. These treatments attack the immune system at its very core, and in many cases the actual treatment delivers a debilitating blow and not the illness itself.

Royal Jelly with its high amino acid content can help the immune system and provide a basic defense against external elements that ordinarily attack the immune system and reduce our body's capability for defense. Supplementing our diet with Royal Jelly helps to rebuild the good cells that are destroyed by chemotherapy and helps to strengthen the immune system.

Royal Jelly also contains the amino and gamma globulin, which helps your immune system fight off viral infections. It also contains sterols, phosphorous compounds and acetylcholine, which is needed to transmit nerve messages from cell to cell.

Like propolis, royal jelly also appears to have anti-tumor properties. A team of Japanese researchers gave royal jelly to one of two groups of laboratory mice before transplanting different types of cancer cells in them. The royal jelly had dramatic effects on sarcoma cells.

The life-span of the mice was extended by about one-fifth and tumor sizes were about half the size, compared with untreated mice, according to a report in the journal Nippon Yakurigaku Zasshji-Folia Pharmacologica Japonica (Feb. 1987;89:73-80).

Associated Benefits* - Many of the benefits of Royal Jelly are associated with its high concentration of essential amino acids, and we refer you to our chapter on amino acids for more information and more possible benefits to explore.

In short, Royal Jelly has been noted for its positive benefits on:

* energy
* chronic fatigue
* skin / hair / nails / bones / joints
* hormonal regulation
* asthma
* sexual vitality / impotence
* weight regulation
* rejuvenation - recovery from illness
* immune system stimulant
* cholesterol levels
* cardiovascular health
* anti-depressive / anti-anxiety
* high blood pressure
* mental condition / memory
* depression
* arthritis
* liver ailments / conditions
* eczema / impetigo / skin disorders
* diabetes

Can Man Recreate Royal Jelly? – Evidently not. Studies have uncovered some of the nutritional properties of this substance, but much remains undiscovered.

Dr. Albert Saenz of the Pasteur Institute in Paris wrote:
"Numerous studies ... demonstrate the existence of fractions in Royal Jelly which correspond to 97 percent of the substance, plus an undermined fraction whose very presence could explain the remarkable and mysterious properties of Royal Jelly." He continues, " Here's yet another product of the beehive with a touch of the bee's magic in it. I suppose some day science will figure out what these unidentifiable elements are and some researcher will try to manufacture them. Until then, the only place to get these mystery nutrients is from the bees."

How is Royal Jelly Processed for Human Consumption? – Royal Jelly is a liquid containing approximately 67% water, and as such is prone to contamination once it is removed from the sterile environment of the beehive.

Once removed from the hive it must be processed quickly to prevent contamination, ideally within two or three hours. Processing generally involves one or a combination of the following steps:

* Treating the product with a chemical preservative.
* Lyophilizing the product (removing the water, often termed freeze-drying)
* Adding a natural preservative like honey.
* Freezing the substance or attempting to maintain it in a refrigerated state.

The favored process is lyophilizing or freeze-drying. This removes the water without effecting the nutrient quality of the product and creates a white powder which can be capsulated for human consumption. Once in capsulated form the product generally has a shelf life of 4 years and does not require refrigeration.

Many questions are raised about the nutritional quality of Royal Jelly, and usually relate to the issue of processing:- "freeze-dried versus non-freeze dried".

Freeze drying ‘locks-in’ the nutritional content of the product and removes any doubts about handling the product down the line. For example, if you choose liquid royal jelly which is sold as ‘requiring refrigeration’, how do you know that the product has been stored and transported in a refrigerated state, and that it isn’t in a partially decomposed state with diminished nutritive properties?

Summary:-
Royal Jelly – A veritable jewel of nutrition and recognized as a potent bringer of energy, health and vitality.It is rich in minerals, natural hormones, B vitamins, fatty acid, and folic acids, along with aspartic acid which is important for tissue regeneration and growth.It contains all essential amino acids required to sustain life.It is taken as a stress reducer and to promote recovery from fatigue. Its balancing properties are associated with many benefits to our important body systems and for this it is taken by a large number of menopausal women, and by men looking for improved sexual vitality.

BEE POLLEN

Referred to as the 'Food of the Gods', bee pollen is a superbly nutritious product and is used world-wide as an energy boosting supplement.

Pollen is the male seed of flowers, created in the stamen within the blossom of the plant.

Honeybees collect the pollen and during the collection process it is combined with secretions from the bee, as it is worked from the stamen of the plant. The bee uses it’s tongue and mandibles to collect the pollen, it then brushes the pollen from around it’s mouth area using it's forelegs and moves the now sticky substance towards it's second pair of legs. The worker bee assembles a mass of pollen, all of which has been mixed with the bee secretion and moved to storage on the bees body and legs. When the bee has collected sufficient pollen it returns to the beehive to deposit the load.
What is the chemical composition of bee pollen?:- Because of the plant origin of bee pollen the actual chemical composition of will vary depending on location and season. Regardless of regional and seasonal variations, the product is very rich in B Vitamins 1,2,3,5,6 and B 12, contains Vitamin C, A and E along with Carotenoids and Folic acid.

Bee pollen also includes collagen and lecithin. Lecithin is associated with the dissolution of body fats and is an effective constituent of bee pollen that can help with weight loss and weight control.

Bee pollen contains all of the essential components of life. The percentage of rejuvenating elements in bee pollen remarkably exceeds those present in brewer's yeast and wheat germ.

Examinations of the origin of collected pollen indicate that the honeybees only collect pollens which are rich in nitrogenous matter (amino acids), leaving lesser quality pollen behind.

Around 20% of bee pollen is composed of amino acids and proteins, and it is extremely rich in Rutin. It is a rich source of minerals, including magnesium, calcium, copper, manganese and more.

Bee Pollen and our health:- A complete food in every sense of the word, extensive tests have concluded that life can be sustained on an exclusive diet of bee pollen and water alone.

Research from the Royal Society of Naturalists stated:- *"The nutritional tests supervised by the station at Bures on hundreds of mice have demonstrated that pollen is a complete food, that it is possible to let several generations be born and live without the least sign of distress, while nourishing them exclusively on bee pollen".*

The list of potential benefits to health is simply vast. Here are some of the more common associated health benefits of bee pollen:

* energy
* weight loss / appetite suppressant
* stamina
* allergies
* antibiotic
* sexual function / impotence / infertility
* asthma
* chronic fatigue
* immune system booster
* prostate diseases
* menopause
* anti aging / longevity

Bee pollen as a dietary supplement may help us in many ways. Bee pollen is taken by many people to supplement the nutrients that are deficient in our diet, nutrients which are important not just for raw energy, but also for their ability to remove harmful ‘free-radicals’ or toxins from our body.

Clinical tests have proven bee pollen to be effective in combating the effects of hay fever and other airborne allergens. In a clinical test, bee pollen was given to individuals suffering from hay fever allergies. It was given over a period and was found to desensitize people from the effects of hay fever and other allergies.

Bee pollen may help with many conditions including obesity. Its ability to act as an appetite suppressant and also a general craving suppressant, makes it popular amongst people looking to loose weight or even quit smoking.

Many athletes around the world attribute their successes in large to using bee pollen as an effective energy/stamina supplement. Muhammad Ali contributes his success to bee pollen and many Olympic athletes have used pollen during training.

Steve Reddick - GOLD MEDALIST on the US Relay Team at the Montreal Games 1976 says: *"It gives me a lot more energy too. I used to take honey but this Bee Pollen is far better. I take 3 pills a day"*

Taking bee pollen may also help reduce the effects of stress and aid digestive system function. Dr. Carlson Wade in his book 'About Pollen' states: *"Bee pollen contains a gonadotrophic hormone similar to the pituitary hormone, gonadotrophin, which functions as a sex gland stimulant. The healing, rejuvenating and disease-fighting effects of this total nutrient are hard to believe, yet are fully documented. Aging, digestive upsets, prostate diseases, sore throats, acne, fatigue, sexual problems, allergies and a host of other problems have been successfully treated by the use of bee pollen".*

Pollen has been taken for centuries to assist in body system regulation and to provide a tonic for reproductive systems, male and female. Providing energy and stamina, it is also considered to assist in alleviating infertility and impotence, particularly when combined with honey and royal jelly.

A note on bee pollen and prostate disorders:- Clinical research suggests that bee pollen can reduce prostrate enlargement and painful symptoms associated with prostate disease.

Dallas Clouatre, Ph.D. is a researcher and author of ‘Flower Pollen for Prostate Health’. In his book he reports that controlled bee pollen consumption among men with prostate problems results in significant improvement and alleviation of symptoms. Specifically, *"less nighttime urination, improved bladder emptying, and reduced prostate discomfort".*

Dr Clouatre also says that bee pollen helps relax smooth muscle, making it easier to empty the bladder. It may also act as an anti-inflammatory and decrease the swelling of the prostate, resulting in a better urine flow and reduced discomfort.

Dr. Clouatre comments that 80% of those people using pollen find marked relief and that pollen may also forestall future problems. "Patients often report that they are no longer getting up at all during the night and that they no longer have difficulty or discomfort upon urination." Source includes BW HealthWire, Nampa, Idaho June 9, 2000.

A Swedish study has also concluded that bee pollen can significantly affect inflammation and swelling of the prostate gland. Dn Gosta Leander conducted a double-blind controlled study of 93 patients in which a placebo was given to 43 men, and bee pollen to the remaining 50. Forty-six men out of the fifty who took the bee pollen were successfully treated, while the control group did not experience any significant improvement.

Many experts believe that the natural hormones contained in bee pollen, along with a wide range of nutrients, magnesium, essential fatty acids and zinc, help to support the male urinary and reproductive systems. It is generally considered that men over the age of thirty could benefit from bee pollen’s ability to help prevent the onset of prostate disorders.

Bee Pollen and weight control:- Our body processes all nutrients and deals with them according to the type and quantity consumed. Consumption rates for calorie-bearing nutrients, coupled with the rate of our metabolism, will generally determine whether we build fat, maintain our body weight or loose weight.

However, we can help our body become more efficient in processing certain nutrient types and certain food groups. By supplementing our food intake with

certain nutrient combinations, we can create an environment where we become more efficient at processing carbohydrates, fats and sugars, and can avoid under some circumstances the production of excessive body fat.

Pollen contains over 5,000 enzymes and co-enzymes, considerably more than is present in any other food. These enzymes are necessary in the body for digestive function and immune function. The enzymes present in bee pollen are considered important in creating a chemical balance in the metabolism. This ‘balancing’ or ‘regulating’ function may be the key factor in bee pollen’s ability to assist in weight regulation.

When taking bee pollen as a diet supplement, it is best consumed an hour or so before meals. Where body weight is normal, and there is no desire to loose weight, pollen may be consumed with, or directly following a meal.

Some important studies have been conducted into the role of bee pollen in helping to control body weight.
S. Blauer (Hippocrates Health Institute) "Bee pollen minimizes, reduces or eliminates the normal person's cravings for heavy concentrated protein... [bee pollen] aids in the digestion of other food"

When investigating bee pollen’s role as a natural appetite suppressant, Dr. J. Chen and Dr. L. Chu (Aerospace Medicine & Life Sciences), "... found the average daily food consumption in the Bee Pollen fed group was generally 15-20% less."

Ingesting bee pollen in supplement form can be a great way of assisting the body in processing and 'burning' carbohydrates and converting calories into energy.

Bee Pollen can also supplement nutritional intake in certain areas that are inadequately catered for by the foods that we eat - providing essential vitamins and minerals that are deficient in processed foods.

How is Bee Pollen processed for human consumption?:- The beehive is a remarkably efficient workplace constructed and operated in a way that has remained unchanged for millions of years. The beehive contains a brood chamber where the Queen bee lays her eggs. The brood chamber is the larger of several chambers within the beehive, the smaller chambers are where the worker bees store the honey and pollen.

The pollen is collected in "pollen traps". In commercial hives, these traps are created by the beekeeper and consist of mesh wire with small apertures which brush the legs of the bee as it enters the hive. The pollen granules then fall into a tray, which is removed by the beekeeper.
In most cases, little or no ‘processing’ is performed on the pollen after it is removed from the hive in its granulated state. It is purged or sifted of any foreign particles, and then packaged and generally frozen.

In its raw state it should be maintained frozen until it is ready for consumption, at which point the thawed bee pollen should be kept refrigerated until consumed.

A more convenient way of consuming pollen is in capsule form. Capsulated pollen if processed correctly, contains all of the nutritional content of the raw pollen but has a much longer shelf-life, typically 3 or 4 years.

Bee pollen has no regulatory status, it is considered a food and not a herb or vitamin supplement. There are no guidelines for effective daily dosages, but many people take upwards of 1000mg per day.

What is the difference between 'domestic' bee pollen and 'imported' bee pollen? - This is an important question. Imported bee pollens, predominantly from China, are often purchased from unregulated facilities and may contain contaminants. In certain parts of China, beekeepers use lead-based paints to paint their beehives, and these 'heavy metal' contaminants may enter the pollen or other substances from the hive. In most cases, reputable manufacturers will use domestic bee pollen as it is in abundant supply.

Summary:-

Bee pollen is a nutritive power-house providing a vast array of potential benefits to our health. Termed a 'super-food' and labeled by ancient cultures as 'The Food of the Gods', bee pollen contains all of the essential nutrients to sustain life.

Valued by many for its energizing and stamina building function, it offers so much more than a quick energy-boosting tonic. Containing a high concentration of amino acids, the immune building properties of bee pollen are rivaled only by those of Royal Jelly and other products from the beehive. When the beehive products are combined, a special 'synergy' is formed which is far greater than the sum of the individual parts.

BEE PROPOLIS

Propolis is a nutrient-rich substance made by honey bees. It is a resinous substance gathered from deciduous tree bark and leaves. Used as a healing agent for many centuries it has the ability to provide protection against infectious invaders, promote healing and regeneration of tissue, and provides a superior source of energy and stamina.

Honeybees create propolis to sterilize the hive and to protect it against outside intruders and infection. It is also used to seal cracks in the hive, and for this reason is often termed 'bee glue'.

Propolis, to a greater extent than the other bee products, is used externally as well is ingested. It is often applied to skin irritations, cuts, rashes and bruises to sterilize and disinfect the wound. It is used in tincture form as a natural

alternative to penicillin and other antibiotics. Used as an antibiotic it is said to be particularly safe and effective and inhibits the resistance-building effect that is a negative factor with prescription antibiotics.

The fact that viruses and bacteria are unable to build tolerances against propolis is particularly significant to the medical field. In an age where prescription antibiotics are commonly over prescribed, it is becoming more difficult for scientists to remain one step ahead when creating antibiotics to treat viral/ bacterial conditions. When antibiotics are taken too frequently, the harmful bacteria that they are designed to eliminate begin to build a resistance to the antibiotic, rendering it impotent.

The anti resistance-building properties of propolis have been clinically verified under controlled conditions.

Prominent Danish scientist, Dr. K. Lund Aagaard has conducted many tests into the properties of propolis and believes that in propolis he has found a substance with the greatest efficiency against the greatest number of diseases.

What is the chemical composition of propolis?:- Propolis contains approximately 50-70% resins, 30% wax, 10% etheric oils and 5% pollen.

Propolis is especially rich in amino acids, important for immune system function.

It has a high vitamin content and is extremely rich in bioflavonoids (Vitamin P). Bioflavonoids are reported to have numerous immune building properties and health benefits. Bioflavonoids are the natural pigments in fruits and vegetables and are found in abundance in oranges. Propolis contains almost 500 times more bioflavonoids than is found in oranges!

According to researcher undertaken at the Second Leningrad Scientific Conference on the Application of Apiculture (bee culture) in Medicine, Bee Propolis is found to be rich in: Vitamin A (carotene), Vitamin B1, B2, B3, biotin. It contains an array of bioflavonoids, albumin, calcium, magnesium, potassium and phosphorus.

Except for vitamin K, Propolis contains all known vitamins and has fourteen of the 15 minerals that the human body requires for normal function. (it does not contain sulfur).

Like Royal Jelly and Bee Pollen, Propolis also contains a number of unidentified compounds which work together synergistically to create a balanced, nutritive substance.

Propolis and our health:- Propolis is commonly applied externally in treating cuts and skin irritations, where its natural antibiotic properties are shown to be effective.

"The field of influence of Propolis is extremely broad. It includes cancer, infection of the urinary tract, swelling of the throat, gout, open wounds, sinus congestion, colds, influenza, bronchitis, gastritis, diseases, of the ears, periodontal disease, intestinal infections, ulcers, eczema eruptions, pneumonia, arthritis, lung disease, stomach virus, headaches, Parkinson's disease, bile infections, sclerosis, circulation deficiencies, warts, conjunctivitis and hoarseness." Dr. K. Lund Aagaard

Dr. John Diamond, President of the International Academy of Preventative Medicine says: "Our life energy is the source of our physical and mental well-being, of glowing health, of the joy of living..." "*I have never seen a patient with chronic degenerative illness who did not have an underactive thymus gland. I believe it is the thymus weakness or underactivity that is the original cause of the illness.....of all the natural supplements I have tested the one that seems to be the most strengthening to the thymus, and hence the life energy, is bee resin or bee propolis...*"

Rich in bioflavonoids, propolis may help in healing and mending blood vessels and resisting the release of histamine. Bioflavonoids are researched as having particular benefit to high blood pressure, respiratory infections and liver conditions. More recently, research has shown that propolis may prevent or retard the growth of certain types of cancerous cells in the human body. (research at Columbia University)

Propolis is commonly associated with the following:

* natural antibiotic
* anti-inflammatory
* allergies
* cancer
* sore throats
* colds / coughs /flu
* fatigue
* respiratory / sinus
* acne and skin disorders including shingles
* Skin cuts, burns, rashes, infections.
* Dental Care, cavities and mouth ulcers.

The Vitamin A content of propolis has proven of interest in more recent times. Vitamin A was the first fat-soluble vitamin to be discovered. The body acquires some of its vitamins A and C through animal fats and beta-carotene and other carotenoids abundant in many fruits and vegetables.
Vitamin A is commonly taken as a dietary health supplement to help promote healthy eyesight and to help resist infection. Vitamins boost immunity by enhancing the infection-fighting actions of the white blood cells called lymphocytes. They are also vital to the growth of bones, skin and hair and may ease the symptoms of inflammatory bowel disease and ulcers.

Frenchman, P. Lavie, has been studying and writing about the antibacterial properties of bee products and propolis. His work represents many years of trying to unfold the many claims relating to the benefits of bee products, and working to add scientific substance to the claims. One example of his studies revealed that adding hot water or hot alcohol to propolis created an antibiotic extract that remained stable for many months when refrigerated. He also found that propolis proved effective as a fungicide, being the only product from the hive to have this property. His work lead to the conclusion that propolis is created primarily to maintain a healthy and illness-free environment within the beehive. Considering the densely populated work area, the occasional outside intruder and the many forms of bacteria that must be combated, this is quite an achievement.

Oral Health and Propolis

Recent studies into the medicinal properties of propolis have shown it to be effective in dental hygiene and the reduction of cavities. To this end, we are beginning to see the emergence of propolis-based toothpaste and dental hygiene products.

Medical studies have also indicated that an ethanolic extract of propolis has a similar effect to the commercial drug novocaine. It may be these properties that give propolis its powerful ability to reduce the pain from sore throats.

Propolis and Cancer

Clinical studies on mice and rats have shown that propolis has properties which might reduce the size of tumors, and prevent the development of cancerous cells.

This particular property of propolis is connected to its strong antioxidant capability and the activity of the compound CAPE.

Several new studies into the potential benefits of propolis in treating/inhibiting certain types of cancer are underway and the projected outcomes look very promising.

How is propolis processed for human consumption?:-

Propolis can be purchased completely raw and unprocessed, but it in its natural state is a sticky substance and is very difficult to handle. Some beekeepers will package the raw propolis and freeze it in small portions. It can then be added to a coffee grinder in its frozen state and ground for easy consumption.

Most producers utilize a process where the active ingredients are ‘leached’ into water or alcohol, then either packaged in liquid form or dried and capsulated.

Summary:-

Propolis has great potential in the medical field as a natural antibiotic with non-resistance building properties.

A versatile substance, propolis can be applied externally to good effect and internally for boosting immunity and destroying harmful toxins and ‘free radicals’.

With modern research capabilities, I am certain that we will see an upsurge in propolis related products, and that before long the FDA will issue much needed guidelines into the effective daily dosages and scope of uses for propolis.

HONEY

Honey is a naturally sweet substance made by bees by concentrating plant nectars. Bees traveling to and from the hive may cover a distance of 40,000 miles and visit over 2 million plants in their quest to find the finest plant nectars. The most common of all bee products, honey has been used for many centuries for its ability to heal wounds, treat infections and provide fast energy.

Many people use honey as a natural sweetener, and it is important to understand why honey is a far healthier alternative to processed sugars.

Sugars provide us with energy. All carbohydrates, whether simple sugars or complex carbohydrates, must be broken down to glucose, or blood sugar, before our bodies can absorb them and use them as energy. Honey combines glucose and fructose, when compared to white sugar, which is sucrose. The basic sugar types in honey are more easily assimilated into the bloodstream and thus yield their energy giving properties more quickly and efficiently than with white sugars. The glycogen in a spoonful of honey is said to pass into the bloodstream in ten minutes to produce this ‘quick energy’.

Many people refrain from using honey in the belief that it is high in calories and may cause unwanted weight gain. An average teaspoon of honey contains only around 25 calories, and as mentioned above it converts quickly and efficiently into ‘energy’, unlike white sugar.

What is the chemical composition of honey?:-

Honey is so much more than glucose and fructose, it is a nutrient rich substance with an impressive array of vitamins and minerals with trace amounts of amino acids and antioxidants. Honey contains proteins, carbohydrates, hormones, organic acids, and anti-microbial compounds.

At the University of Florida’s Department of Food Science and Human Nutrition, Dr. Susan Percival found honey contains important nutrients, including vitamin B6, riboflavin, thiamin and pantothenic acid. Minerals found in honey include calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium and zinc.

Dr. Percival writes:- "……several different amino acids, the building blocks of protein, have been identified in honey."

The vitamin and mineral content of honey is:
. Vitamin A
· Betacarotene
· B-complex vitamins (complete)
· Vitamin C, D, E, K
· Magnesium
· Sulfur
· Phosphorus
· Iron
· Calcium
· Chlorine
· Potassium
· Iodine
· Sodium
· Copper
· Manganese

Raw honey also contains a rich supply of live enzymes and like the other bee products, some substances in honey cannot be identified. Honey may contain other medicinal compounds, depending on the type of plant from which the pollen was taken.
Honey and our health:- Scientists in Istanbul have experimented with Honey in an effort to reveal potential benefits in the operating theatre. They have established that honey applied to wounds post surgery can prevent the formation of tumors and prevent the growth of cancerous cells.
Work is underway at the Mayo clinic into discovering potential uses for bee products in the medical field. This and other ongoing research into the medicinal uses of bee products is extremely encouraging. The only surprise is just how long it has taken the medical community in the USA to show serious interest, whereas the rest of the world it seems has known for years.

<u>There are several factors that may account for honey's healing properties:</u>

• Bacterial infections require water to thrive. The sugars in honey attract water, and may deprive the bacteria resulting in diminished activity from the virus.
• Bee pollen and propolis enzymes are present in even the purest of raw honey. These possess anti-viral and antibacterial properties that work from within the honey to sterilize wounds and assist healing.
• Glucose oxidase found in honey combines with water and produces hydrogen peroxide. Hydrogen peroxide has antiseptic properties.
Dr. Paavo O. Airola, has written the book ‘Health Secrets from Europe’. In it he writes about the natural therapeutic effects of honey and states: "Honey is a perfect food. It contains large amounts of vitamins, minerals, being particularly rich in vitamins B and C. It contains almost all vitamins of the B-complex, which are needed in the system for the digestion and metabolism of sugar. Honey is also rich in minerals such as calcium, phosphorus, magnesium, potassium,

silicon, etc……some kinds may contain as much as 300 milligrams of vitamin C per 100 grams of honey."

Royden Brown in his book ‘Bee Hive Product Bible’, provides invaluable insight into the properties of bee products. He writes about the use of Honey to treat respiratory ailments, and relates to exhaustive research conducted in Bulgaria: "We found Honey has bactericidal, anti-allergenic, anti-inflammatory and expectorant properties that insure the body an immunobiological defense and give it the capacity to regenerate its attacked cells".

Dr. Peter Molan, MBE, is an Associate Professor in Biochemistry at the University of Waikato, in New Zealand. Dr. Molan has over 17 years of research into the medicinal and healing properties of honey. Dr. Molan has conducted extensive testing into the regional variations of honey, and how honey from different regions exhibit different medicinal properties.
The results from his tests have shown scientifically that all honeys have varying degrees of healing properties, mainly due to the antibacterial agent, hydrogen peroxide, which is found in all honey regardless of region.

May R. Berenbaum, is an entomologist at the University of Illinois. Recent studies by Berenbaum show honey to possess surprising quantities of antioxidants. It was apparent that honey from different regions exhibited varying antioxidant properties, and that generally, honey which is darker in color was found to be more potent as an antioxidant. Antioxidants are important in their ability to fight toxicity in the bloodstream and may help fight off harmful infections.

How is honey processed for human consumption?
Honey is often treated with a pasteurizing process to minimize crystallization once packaged. This process may involve exposure to high temperatures that can destroy some of the valuable natural enzymes in honey.

Raw and unprocessed honey is generally preferred over honey which has been heavily processed. When honey crystallizes, it is generally a simple case of gently warming the product until it is re-liquefied. Temperatures of 110 degrees or less should be adequate to re-liquefy the product and at this temperature the live enzymes should remain unaffected.

This also has significance concerning the end use of honey, and there are conflicting opinions in this regard. Clearly, certain live enzymes are destroyed when the product is heated excessively, and therefore its nutritive and therapeutic properties must be diminished. So using honey in hot drinks, as so many people do, may not be yielding the full range of benefits from the product. However, recent studies into how heating certain vegetable products may effect their nutrient yield is uncovering some interesting results that seem to go against popular opinion. In one study, carrots were analyzed for their beta-carotene, or Carotenoid content. Carotenoids are phytonutrients, the nutritional elements that occur naturally in fruits and vegetables, giving them their distinctive yellow,

orange or red colors. They are commonly believed to be powerful antioxidants that rid the body of harmful free-radicals. For many years nutritionists have told us that eating raw vegetables is the only way to benefit significantly from their nutritional properties, and that heating vegetables destroys their nutrient content. However, in a recent series of tests, carrots were heated through various stages to simulate a typical cooking process. At different temperatures the beta-carotene levels of the carrots was analyzed, and it was found that the levels actually increased through the heating process. At a certain stage the levels began to diminish, but never to a level below the raw, uncooked food.

Similar research has been conducted into the effect on honey. It was found that the antioxidant properties of honey may increase through heating: "When honey is cooked, it appears to acquire additional, functionally important antioxidants", according to related studies at Clemson University in South Carolina.

So, to heat or not to heat? The simple answer is to use your honey straight from the jar by teaspoon, and use it in hot drinks also. That way you have the best of both worlds, unheated with its live enzymes intact, and its increased antioxidant levels when heated.

Summary:-

Honey is much more than just a sweetener, it has real nutritional properties that provide us with potent antioxidants and a host of other nutritional benefits.

By embracing honey into your everyday diet, you may help your body help itself – fighting and removing toxins, viral infections and providing useful energy that is not derived from harmful sucrose.

Honey acts as the perfect accompaniment to royal jelly - adding a touch of sweetness and flavor, and naturally preserving the liquid royal jelly, avoiding the need for refrigeration or preservatives.

Honey, mankind’s oldest sweetener, is being rediscovered as a natural source of energy with the added benefit of having potent medicinal and therapeutic properties.

CONCLUSION

There is clear medical research indicating that Bee Products are very special substances when it comes to their nutritional properties and your health.

Bees are perhaps the oldest living species on our planet, and it is no accident that they have remained unchanged in their existence for many millions of years. Mother Nature created a perfect environment when creating the honeybee, and at the same time equipped the honeybee with all of the tools required for longevity, come what may.

Fortunately for mankind, the industrious little insect with the gentle sting is more than capable of creating its nutritious produce in sufficient quantities for man to enjoy.

Perhaps the sting was designed to draw attention to the otherwise innocuous little insect, as a way of prodding and awakening us to the power of its wares.

Take the time to seek out and enjoy quality bee products, embrace them into your every day diet like you would with any conventional foods, and enjoy the energizing, protecting and invigorating power of the beehive.

Thank you for your interest in products from the beehive. We know there are many products to choose from and all manufacturers will claim their product is the best.

We ask simply that you research your product selections carefully, particularly when buying online. Look for price, type of ingredients, potency of each ingredient, and number of capsules per bottle. We know when you take time to do this you will always find our products to be the best value, particularly 'Total Bee Plus'.

Total Bee Plus combines royal jelly, bee pollen, propolis and honey into one capsule, and there are 120 capsules in each bottle. The amazing thing about this product is the potency we are able to achieve from each of the four active ingredients, in particular, royal jelly. There are no other products that come close to Total Bee Plus, our cost per milligram of active ingredient is far lower than our closest competitor.

Visit our home page at www.TheNaturalShopper.com and you will find a simple price comparison between us and our closest competitor, and you will see that there really is no comparison, we offer far better value across the board.
And don't forget about quality and purity of ingredients. Our facility is here in the USA and we are licensed and regulated by the FDA, with eGMP our normal standard.
Quality 6% 10HDA royal jelly in every capsule, with domestic pollens, propolis and honey, for the complete spectrum of nutrition in one convenient capsule.

As a special thank you for showing interest in our products, we would like to present first time customers with a cash rebate on your order - simply email us at sales@thenaturalshopper.com after your first order is placed and we will credit your account with $5.00 towards your next purchase at our website.

Sincerely,

The staff at The Natural Shopper

www.TheNaturalShopper.com