



Chemical Analysis of the LifeMel

As for Zuf Globus Laboratories Ltd. request Professor Stefan Soback, the head of the Israeli National Residue Control Laboratory, has performed a chemical analysis of the LifeMel. The purpose of the analysis was:

- a) To find active ingredients from plant origin in the LifeMel
- b) To compare the ingredients found in the LifeMel to those found in regular honey.

The analysis results are shown in the following pages.

In General the analysis has proven that the LifeMel is very rich with many active ingredients and that it is much more than regular pure honey.

The analysis was limited due to the sensitivity of the laboratory test equipment, and one can assume that with more active ingredient will be found with more sensitive equipment

This analysis confirms that Zuf Globus Laboratories' technology is very effective in transferring the active ingredients and other materials from the medicinal plants to the LifeMel.



מעבדות צוף גלובוס בע"מ

Zuf Globus Laboratories Ltd.



STATE OF ISRAEL

Ministry of Agriculture and Rural Development,
Veterinary Services and Animal Health, P.O.B 12, Beit-Dagan, 50250.

**NATIONAL RESIDUE CONTROL LABORATORY TEST REPORT
CHEMICAL ANALYSIS FOR LIFEMEL HONEY**

Test Program: Analytical screening for micro elements and molecules from plant origin in honey products.

Test Period: May - June 2008

Test Samples ID: Lifemel 10A and 10B 120g jar

Destination: Export

Analytical Results

GC-MS (Volatiles and Semi-Volatiles)

SAMPLE No.	Life Mel – molecules from plant origin
10A & 10B	Terpenoids- Carene, Sabinene, Terpinene, Thujene, Terpeneol, Linalool
	Cadinene, Gurjumene, Aromadendrene, Caryophyllene, Geranyl acetate, Camphene
	Linalyl acetate, Ocimen, Citral, 1,8-Cineole,
	OTHER COMP. – EICOSANE, FATTY ACIDS, 4-METHYL CINNAMIC ACID

- Analysed by GC-MS and multi library search

Search Libraries: -Database\WILEY138.L

Minimum Quality: 85

- Database\NIST98.L

Minimum Quality: 85

TLC (Plant Pigments)

SAMPLE No.	Life Mel – molecules from plant origin
10A & 10B	Chlorophylls, Carotenoids, Flavonoids

ICP-MS (Micro-elements)

metals trace analysis - Lifemel vs. regular honey

	<u>Fe</u>	<u>Mn</u>	<u>Mo</u>	<u>Se</u>	<u>Zn</u>	<u>Cu</u>
Lifemel – 10a	845.35 *	155.3	0.94	15.71	1026.027	20.27
Lifemel – 10b	1250.76	300.6	1.18	23.58	357.024	31.47
Comercial Honey - 1 (303)	227.40	53.6	0.66	1.34	110.373	19.51
Comercial Honey - 2 (135)	253.94	35.6	0.27	3.22	99.561	17.27

* concentration at ppb (ng/g)



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Test Results Submitted to "Tzuf Globus Ltd", Israel By:

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Sample Received: 20/05/08

Product Description: Product I.D source/Type Individual Sample Container,
LIFEMEL

Condition of Sample Upon Reception: As required

Tests Conducted: 25/05/08 - 10/06/08

Results Mailed to Customer on: 11/06/08

REPORT FORMS TRANSFERED VIA FAX WILL BE FOLLOWED WITH ORIGINAL
FORMS BY MAIL.

Signature:

Date:

11 06. 2008

PROF. STEFAN SOBACK
HEAD NATIONAL RESIDUE CONTROL LABORATORY
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Explanation of the ingredients found in the LifeMel and their effect on the human body

Terpenoids	Bactericidal, anti-inflammatory, stimulation of the endocrine and digestive systems, choleric action, diuretic action
Carene	Antibacterial, antiviral, anesthetic action.
Sabinene	Diuretic, expectorative action, bacteriostatic action.
Terpinene	Bactericidal, choleric, antispasmodic action.
Thujene	Bactericidal, fungicidal, anti-oxidant action.
Terpineol	Anti-depressant action, analgetic action.
Linalool	Anti-depressant action, antiseptic action, bactericidal, stimulating, analgetic action.
Eicosane	Important for maintaining homeostasis in the body, anti-inflammatory, analgesic action.
Fatty acids	Alleviation of excessive inflammation response. Restoration of the function of the neutrophils. Cardio protective effect.
4-methyl cinnamic acid	Stimulation of the immune system, antibiotic action. Stimulation of tissue regeneration, analgesic action. Synergy with terpenoids.
Chlorophylls	Strengthening of cell membranes, instrumental for building connective tissues, which accelerates wound healing. Chlorophyll can bolster the organism's immune function by accelerating phagocytosis, prevents pathological changes in DNA molecules. Some researchers believe that chlorophyll can block the first stage of mutation of healthy cells into cancer cells. Can slow down the growth of bacteria. Fights toxins, have decontaminant effect on a number of carcinogens. Contribute to blood cell synthesis. Can speed up the regeneration of tissues. Can counteract radiation injuries. Can maintain healthy intestinal flora.
Carotenoids	Acts as photo protectors and anti-oxidants, prevent transformations induced by oxidizers, genotoxic substances, X-ray and UV radiation at the molecular and cellular levels. Can maintain genome stability and resistance to mutagenesis and carcinogenesis. Contribute to sparing use of anti-oxidant vitamins and enzymes, have stress reducing properties.
Flavonoids	Have P-vitamin action, can reduce capillary fragility, enhance the action of ascorbic acid, produce sedative effect. Used as anti-inflammatory and anti-ulcer agents. Have antihemorrhagic properties. Good choleric agents. Lately, reports of their anti-tumor action have appeared. Thus flavonoids have the following properties: cardioprotective, anti-arrhythmia, hypotensive, anti-spasmodic, anti-radiation, anti-allergic, hepatoprotective, anti-sclerotic, diuretic. They also have anti-mutagenic and anti-carcinogenic properties.
Fe	Iron when this substance is present in the vital Fe-containing proteins, in particular enzymes and hemoglobin. It is also a component of the cytochromes of the cell respiratory chain enzymes and of anti-oxidant enzymes (catalase, myeloperoxidase). Therefore this substance is not only important in maintaining oxygen supply to the cells. It also contributes to respiratory chain function and ATP synthesis, the processes of metabolism and of detoxification of endogenous and exogenous substances, DNA synthesis, inactivation of toxins. Fe-containing compounds play an important part in the functioning of the immune system, primarily in the cell component.



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Mn	Manganese is part of the basic neurochemical processes in the central nervous system, it is active in the building of the bone and connective tissues, in the regulation of lipid exchange and carbohydrate metabolism and vitamins exchange. It influences the processes of blood formation and immune protection.
Mo	Molybdenum is beneficial for iron metabolism in the liver and contributes to the function of a range of enzymes. The assumed anti-cancer activity of molybdenum is attributed to the capability of one of them (aldehyde oxidase) to catalyze oxidation of carcinogenic substances in the body.
Se	Selenium The role of this substance in the human organism is first and foremost determined by the fact that it is part of glutathione peroxydase, a major anti-oxidant enzyme. Glutathione peroxydase prevents the accumulation of peroxidation products in the cells, thus protecting the cell nuclear and protein-synthesizing apparatus from damage. Selenium is a synergist with vitamin E, further enhancing its anti-oxidant capabilities. Selenium is part of the enzyme governing triiodothyronine formation, it is part of muscle tissue proteins and, which is most important, of myocardium proteins. Selenium deficiency can lead to impaired antioxidant status, dampened anti-cancer protection, it can cause myocardiodystrophy, impaired sexual function, immune deficiencies. Along with the above, selenium shows anti-mutagenic and anti-radiation effects, it can boost antitoxic resistance, normalize the exchange of nucleic acids and proteins, improve the reproductive function, and regulate the thyroid gland and pancreas activities.
Zn	Zinc is present in several hundred enzymes as a trace substance. It is vital for the functioning of DNA and RNA polymerases which govern the processes of passing on heredity information and biosynthesis of proteins (and, therefore, the reparative processes in human organism), as well as for the synthesis of hemoglobin and respiratory enzymes. Zinc is part of antioxidant enzyme (superoxide dismutase) and it induces biosynthesis of protective proteins in the cell, which makes it a reparative antioxidant. Zinc is important for hormonal functions. It exerts an immediate influence on the generation and functioning of insulin and on the entire range of insulin-dependent processes. In males zinc contributes to testosterone synthesis and the functioning of the sexual glands, with dependence traced between the zinc level in the body and sexual potency. Zinc regulates the level of dihydrotestosterone, the excess of which causes hyperplasia of the prostate gland. Zinc is also indispensable for female organism since it is part of the estrogen receptors and thus instrumental for the regulation of all estrogen-dependent processes. The thymus gland and the immune system largely rely on zinc for their function. It prevents the emergence of immune deficiency by boosting the synthesis of anti-bodies and exerting an anti-viral effect. Zinc has wound-healing properties, it is necessary for the function of the central nervous system, in particular for memory processes.



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Cu

Copper is important for the synthesis of hemoglobin. That is why copper deficiency can cause anemia. Copper is necessary for the energy generation processes in cells. It contributes significantly to the anti-oxidant protection of the organism since along with zinc it is part of superoxide dismutase, a tissue anti-oxidant enzyme, and of ceruloplasmin, blood plasma anti-oxidant protein. Ceruloplasmin transports copper in the body. Copper has anti-inflammatory and antiseptic properties (probably due to its anti-oxidant effect).

This trace element contributes to the building of the structure of collagen and elastin, connective tissue proteins which are structural components of the bone and cartilaginous tissue, the skin, the lungs, the blood vessels walls. This explains why copper deficiency may lead to aortic and cerebral aneurism. For the same reason copper deficiency may cause demineralization of bone tissue and osteoporosis.

Copper is instrumental for building the medullary sheaths of nerves. Degeneration of medullary sheaths can lead to multiple sclerosis and other grave nervous system disorders.