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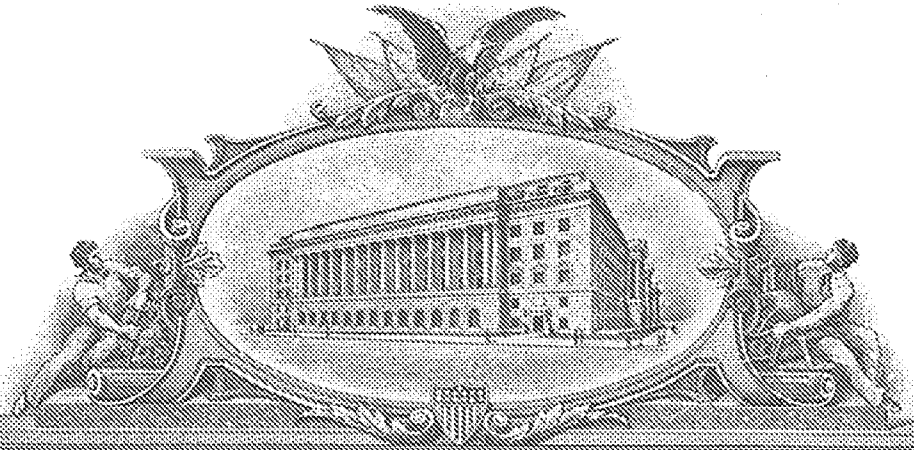
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APPLICATION NUMBER: 62/195,311
FILING DATE: *July 22, 2015*

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a **PROVISIONAL APPLICATION FOR PATENT** under 37 CFR 1.53 (b)(2).

Docket Number		61794		Type a plus sign (+) inside this box ->	+
INVENTOR(s) / APPLICANT(s)					
LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)		
AVIDOV	Amit Dov		Kiryat-Tivon, Israel		
TITLE OF THE INVENTION (280 characters max)					
BEE-INGESTIBLE COMPOSITIONS, METHODS OF USING SAME FOR PRODUCING HONEY AND HONEY PRODUCED THEREBY					
CORRESPONDENCE ADDRESS					
Jason H. Rosenblum c/o Martin D. Moynihan PRTSI, Inc. P.O. Box 16446 Arlington					
STATE	VIRGINIA	ZIP CODE	22215	COUNTRY	USA
ENCLOSED APPLICATION PARTS (check all that apply)					
☒ 31 pages of specification (including Abstract page)		☒ 38 Claims			
☒ 1 sheets of drawings		☐ Text File with Sequence Listing			
☒ 32 total pages		☒ Application Data Sheet			
☒ Petition to Accept Color Drawings		☒ Applicant is entitled to Small Entity Status under 37 CFR 1.9 and 37 CFR 1.27			
THE FILING FEE HAS BEEN CALCULATED AS SHOWN BELOW:					
FOR:	SMALL ENTITY RATE		OTHER THAN A SMALL ENTITY FEE		
Provisional Application Filing Fee		\$130.00			
Provisional Application Size Fee (32 Total Pages x .75 = 24 pages; Per 50 Pages Over 100)	0 x \$ 200.00	\$0.00			
	TOTAL	\$130.00			
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT					
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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No ☐ Yes, the name of the US Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE /Jason H. Rosenblum/

July 22, 2015

Date

56,437

REGISTRATION NO.
(if appropriate)

TYPED or PRINTED NAME Jason H. Rosenblum

☐ Additional inventors are being named on separately numbered sheets attached hereto

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

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PROVISIONAL PATENT APPLICATION

Inventor: Amit Dov AVIDOV

Title: BEE-INGESTIBLE COMPOSITIONS, METHODS OF USING SAME
FOR PRODUCING HONEY AND HONEY PRODUCED THEREBY

FIELD AND BACKGROUND OF THE INVENTION

The present invention, in some embodiments thereof, relates to bee-ingestible compositions, methods of using same for producing honey and honey produced thereby.

Cannabis, more commonly known as marijuana, is a genus of flowering plants that includes at least three species, *Cannabis sativa*, *Cannabis indica*, and *Cannabis ruderalis* as determined by plant phenotypes and secondary metabolite profiles.

The use of cannabis for social and medical purposes has been known for almost of all humanity's recorded history. Cannabis is most commonly administered via inhalation or consumption of marijuana-infused food and drink.

Several medicinal uses have been found for the active ingredients of cannabis, including the ingredients tetrahydrocannabinol (THC), cannabinal (CBN), cannabidiol (CBD) and cannabichromene (CBC). The medicinal uses of cannabis include treatment of nausea and pain associated with cancer and chemotherapy; nausea, pain and wasting associated with AIDS; arthritis and rheumatism; glaucoma; migraines; muscle spasticity associated with multiple sclerosis and paralysis; alcohol and narcotics withdrawal; stress and depression; asthma; and epileptic seizures.

Despite the many proven or suspected benefits of cannabis, legal and social barriers prevent its widespread use.

There presently exists a need to provide more effective and safer cannabis extracts for various medical uses.

Honey has been used as a natural remedy and therapeutic aid since ancient times. The anti-microbial properties of honey have long formed part of both folk and scientific knowledge. Recently it has been suggested that the process of production of nectar into honey, naturally intensifies the effect of active ingredients present in the nectar, making them more effective and readily absorbed by the body. Products based

on this scientific finding include LifeMel Honey, the world's most expensive honey and also disclosed in WO 2006/080019.

Additional background art includes:

U.S. Patent No. 8,445,034 teaches systems and methods for fabricating a
5 medicine by preparing a cannabis plant material and classifying the cannabis plant material into an acid, neutral, or analog form; extracting cannabinoids from the cannabis plant material by either a reflux process through evaporating and condensing the cannabis plant material or an ultrasonic extraction process of the cannabis plant material with ultrasonic waves; and infusing the cannabinoids with glycerine or honey
10 to produce the medicine from a cannabis plant;

[http://www\(dot\)thctalk\(dot\)com/cannabis-forum/archive/index\(dot\)php/t-82646\(dot\)html](http://www(dot)thctalk(dot)com/cannabis-forum/archive/index(dot)php/t-82646(dot)html).

SUMMARY OF THE INVENTION

15 According to an aspect of some embodiments of the present invention there is provided a bee ingestible composition comprising a bee food base and THC and/or CBD.

According to some embodiments of the invention, the bee ingestible composition comprises cannabis oil.

20 According to some embodiments of the invention, the bee ingestible composition further comprises oil for rendering the composition more fluid.

According to some embodiments of the invention, said oil comprises an olive oil.

25 According to some embodiments of the invention, said bee food base is in a solid form.

According to some embodiments of the invention, said bee food base is in a liquid form.

According to some embodiments of the invention, said bee food base is in a semi-solid form.

30 According to some embodiments of the invention, the bee ingestible composition is a paste.

According to some embodiments of the invention, said bee food base comprises a natural bee feed.

According to some embodiments of the invention, said bee food base comprises a non-natural bee feed.

According to some embodiments of the invention, said bee food base is selected from the group consisting of honey, pollen, nectar, a carbohydrate solution
5 and mixtures thereof.

According to some embodiments of the invention, said bee food base is selected from the group consisting of wheat, soybean flour, yeast, corn syrup, beet sugar syrup, isomerized corn syrup and type-50 sugar syrup.

According to some embodiments of the invention, said bee food base is honey.

10 According to some embodiments of the invention, said cannabis oil comprises said THC and/or CBD.

According to some embodiments of the invention, the bee-ingestible composition further comprises a pharmaceutical selected from the group consisting of an anti-allergic agent, an anti-inflammatory agent, an antioxidant, an anti-microbial
15 agent, an antibacterial agent, an antifungal agent, an antiviral agent, an anti-cancer agent, an apoptosis inducing agent and an anti-diarrheal agent.

According to some embodiments of the invention, said pharmaceutical is a plant-derived pharmaceutical.

According to some embodiments of the invention, said pharmaceutical is not
20 naturally present in cannabis trichome or cannabis oil.

According to some embodiments of the invention, said pharmaceutical is selected from the group consisting of a flavanoid, a heteroside, a polyphenol and a terpenoid.

According to some embodiments of the invention, said flavanoid is naringin.

25 According to some embodiments of the invention, said bee food base is present in the bee-ingestible composition at an amount of at least 50 %.

According to some embodiments of the invention, said CBD and/or THC in said cannabis oil is present in the bee-ingestible composition at an amount not exceeding 1 %.

30 According to some embodiments of the invention, the bee-ingestible composition comprised:

50-99.9 % bee food base;

0.1-5 % cannabis oil; and optionally

0.1-1 % pharmaceutical.

According to an aspect of some embodiments of the present invention there is provided a method of producing honey comprising:

- (a) feeding bees with the bee ingestible composition; and
- 5 (b) collecting the honey produced by said bees.

According to an aspect of some embodiments of the present invention there is provided honey obtainable according to the method described herein.

According to some embodiments of the invention, the honey is substantially free of plant material.

10 According to an aspect of some embodiments of the present invention there is provided honey comprising THC and/or CBD and a pharmaceutical which is not-naturally present in cannabis.

According to some embodiments of the invention, said pharmaceutical comprises a plant derived pharmaceutical.

15 According to some embodiments of the invention, the honey is characterized in that it comprises 1000 fold lower concentration of THC and/or CBD than that present in said bee-ingestible composition.

According to an aspect of some embodiments of the present invention there is provided honey comprising 10 ppm – 200 ppm THC and/or CBD.

20 According to some embodiments of the invention, the honey comprises 50 ppm – 100 ppm THC and/or CBD.

According to some embodiments of the invention, the honey comprises 50 ppm – 80 ppm THC and/or CBD.

25 According to some embodiments of the invention, the honey further comprises a pharmaceutical.

According to some embodiments of the invention, the honey is in a semi-solid form.

According to some embodiments of the invention, the honey is in a solid form.

30 According to some embodiments of the invention, the honey is in a liquid form.

According to an aspect of some embodiments of the present invention there is provided a processed product comprising the honey described herein.

According to an aspect of some embodiments of the present invention there is provided a method of treating a medical condition which is alleviated by cannabis, the method comprising administering to a subject in need thereof a therapeutically effective amount of the honey or a processed product thereof, thereby treating the medical condition which is alleviated by cannabis.

According to some embodiments of the invention, said medical condition is selected from the group consisting of nausea and pain associated with cancer and chemotherapy; nausea, pain and wasting associated with AIDS; arthritis and rheumatism; glaucoma; migraine; muscle spasticity associated with multiple sclerosis and paralysis; alcohol and narcotics withdrawal; stress; depression; asthma; epileptic seizures and dementia.

Unless otherwise defined, all technical and/or scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which the invention pertains. Although methods and materials similar or equivalent to those described herein can be used in the practice or testing of embodiments of the invention, exemplary methods and/or materials are described below. In case of conflict, the patent specification, including definitions, will control. In addition, the materials, methods, and examples are illustrative only and are not intended to be necessarily limiting.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

Some embodiments of the invention are herein described, by way of example only, with reference to the accompanying drawings. With specific reference now to the drawings in detail, it is stressed that the particulars shown are by way of example and for purposes of illustrative discussion of embodiments of the invention. In this regard, the description taken with the drawings makes apparent to those skilled in the art how embodiments of the invention may be practiced.

In the drawings:

FIG. 1 is a photograph showing the attraction of honey bees to the various feeding protocols. Attraction levels 1 and 9 are exemplified.

DESCRIPTION OF SPECIFIC EMBODIMENTS OF THE INVENTION

The present invention, in some embodiments thereof, relates to bee-ingestible compositions, methods of using same for producing honey and honey produced thereby.

5 Before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not necessarily limited in its application to the details set forth in the following description or exemplified by the Examples. The invention is capable of other embodiments or of being practiced or carried out in various ways.

10 Cannabis, also known as marijuana and by numerous other names, is a preparation of the *Cannabis* plant intended for use as a psychoactive drug or medicine. The main psychoactive part of cannabis is tetrahydrocannabinol (THC); it is one of 483 known compounds in the plant, including at least 84 other cannabinoids, such as cannabidiol (CBD), cannabinol (CBN), tetrahydrocannabivarin (THCV).

15 Cannabis has been indicated for the reduction of nausea and vomiting during chemotherapy, improving appetite in people with HIV/AIDS, alleviation of chronic pain and muscle spasms as well as other medical conditions such as detailed hereinbelow.

20 Since the beginning of the twentieth century, most countries have enacted laws against the cultivation, possession or transfer of cannabis. There presently exists a need to provide more effective and safer cannabis preparations for various medical uses.

25 Whilst reducing the present invention to practice, the present inventor was able to feed honeybees on cannabis oil extract. This finding is particularly surprising since it is well known in the beekeeping world that honeybees are repelled from naturally pollinating cannabis. Bee ingestible compositions comprising the cannabis oil are fed to the bees which in turn produce honey which comprises the active ingredients in the cannabis oil e.g., cannabinoids. Despite the lower concentration of the active ingredients in the honey thus produced, the honey is endowed with pharmaceutical activity absent from control honey, i.e., honey simply mixed with the active ingredients at the corresponding concentration. Thus, the present findings pave the way to the production of honey and honey-based products which are effective and safe for various medical uses.

30 Thus, according to an aspect of the invention there is provided a bee ingestible composition comprising a bee food base and CBD and/or THC.

As used herein the term “bee” refers to any of several winged, hairy-bodied, usually stinging insects of the superfamily Apoidea in the order Hymenoptera, including both solitary and social species and characterized by sucking and chewing mouthparts for gathering nectar, as well as collecting pollen. Exemplary bee species include, but are not limited to *Apis*, *Bombus*, *Trigona*, *Osmia* and the like. In one embodiment, bees include, but are not limited to bumblebees (*Bombus terrestris*) and honeybees (*Apis mellifera*). It is believed that the present teachings are relevant to the aforementioned bee species. However, due to the commercial interest more emphasis has been put on honey bees. The term as used herein refers to a bee at any developmental stage, e.g., egg larvae and pupa, adult e.g., queen, workers and drones. According to a specific embodiment, the bee is an adult bee.

According to a specific embodiment, the term “honeybee” or “honey bee” refers to the western honey bee or European honey bee (*Apis mellifera*), being a species of bee.

As used herein the term “bee ingestible composition” also referred to herein as “the composition” refers to a natural or non-natural bee feed which is digested by the gastrointestinal system of the bee.

According to a specific embodiment, the composition is in a solid form e.g., pollen cake.

According to a specific embodiment, the composition is in a semi-solid form.

According to a specific embodiment, the composition is in liquid form.

According to a specific embodiment, the liquid is a sucrose solution.

According to a specific embodiment, the liquid is a corn syrup solution.

According to a specific embodiment, the composition is a paste.

According to a specific embodiment, the liquid further comprises a carbohydrate or sugar supplement.

According to a specific embodiment, a bee food base of the bee ingestible composition comprises a natural bee feed.

According to a specific embodiment, a bee food base of the bee ingestible composition comprises a non-natural bee feed.

According to a specific embodiment, the bee food base is selected from the group consisting of honey, pollen, nectar, a carbohydrate solution and mixtures thereof.

According to a specific embodiment, the bee food base is selected from the group consisting of wheat, soybean flour, yeast, corn syrup, beet sugar syrup, isomerized corn syrup and type-50 sugar syrup.

According to a specific embodiment, the bee food base in the composition is
5 honey.

According to a specific embodiment, the bee ingestible composition as described herein comprises oil for rendering the composition more fluid.

According to a specific embodiment, the oil is derived from wheat germ, Camelina, Jojova, macroloba, passiflora edulis, Mauritia flexuosa, Carpa, Brazil nut,
10 Astrocaryum aculeatum, Annona muricata, Acmella oleracea, Acai palm, Sesame, Rice bran, Linseed, Hazelnut, Hazelnut, Grape seed, Corn, Coconut, Palm kernel, Cottonseed, Peanut, Canola, Sunflower seed High Oleic, Sunflower seed High Linoleic, Rapeseed, Soybean and Palm.

According to a specific embodiment, the oil is olive oil.

As used herein the term “cannabidiol” or “CBD” refers to the major non-
15 psychotropic cannabinoid in most Cannabis preparations, such as hashish and marihuana. Thus, cannabidiol, as used herein, is meant to refer to 2-[3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-5-pentyl-1,3-benzenediol as well as to pharmaceutically acceptable salts, solvates, metabolites (e.g., cutaneous metabolites),
20 and metabolic precursors of 2-[3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-5-pentyl-1,3-benzenediol. The synthesis of 2-[3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-5-pentyl-1,3-benzenediol is described, for example, in Petilka et al., Helv. Chim. Acta, 52:1102 (1969) and in Mechoulam et al., J. Am. Chem. Soc., 87:3273 (1965), which are hereby incorporated by reference.

25 The term CBD refers to the naturally occurring substance or synthetic versions of same. The term also refers to cannabidiol derivatives and metabolites such as taught in U.S. Pat. Nos. 7,759,526, 8,119,697 and 8,435,556 each of which is hereby incorporated by reference in its entirety.

As used herein the term “THC” or Tetrahydrocannabinol, or more precisely its
30 main isomer (–)-*trans*- Δ^9 -tetrahydrocannabinol ((6aR,10aR)-delta-9-tetrahydrocannabinol), is the principal psychoactive constituent (or cannabinoid) of cannabis. The term refers to the naturally occurring substance or synthetic versions of same.

"(-)-*trans*- Δ^9 -tetrahydrocannabinol", as used herein, also refers to its pharmaceutically acceptable salts, solvates, metabolites, and metabolic precursors. DELTA-^{sup}9-tetrahydrocannabinol is marketed under the generic name "dronabinol".

5 As mentioned the THC and/or CBD can be provided into the composition in a purified form (e.g., above 90 % purity each, e.g., synthetic forms) or in a cannabis oil (e.g., trichome extract).

The oil can be extracted from a single genetic background of a cannabis plant i.e., line, or a plurality of genetic backgrounds.

10 As used herein the term "cannabis" refers to the genus of flowering plants that includes three different species, *Cannabis sativa*, *Cannabis indica* and *Cannabis ruderalis*.

According to a specific embodiment, the cannabis is from the species *Cannabis ruderalis* which is substantially devoid of psychotropic activity.

15 When cannabis oil is used, as the source of CBD/THC, the composition comprises also other metabolites and active ingredients which are extracted in the cannabis oil. Examples include but are not limited to other cannabinoids as well as terpenes. Such compounds are easily identified using gas chromatography or HPLC (see for details Romano et al. *Cannabinoids* 2013;1(1):1-11).

20 When cannabis oil is used, the cannabis genetic background is selected according to the intended use, that is, high/low CBD/THC levels.

For example, breeders are currently developing more CBD-rich strains, as reported in Good, Alastair (26 October 2010). "Growing marijuana that won't get you high". *The Daily Telegraph* (London). Other CBD-rich strains are available from
25 Tikun Olam that developed a strain of the plant which has only cannabidiol as an active ingredient, and no detectable levels of THC, providing some of the medicinal benefits of cannabis without the psychotropic effects. Avidekel, a cannabis strain that contains 15.8 % CBD and less than 1% THC can also be used according to the present teachings.

30 Numerous methods are known in the art to extract oil from the cannabis plant and the ordinary skilled artisan will know which to choose according to the intended use. Examples of CBD/THC extraction methods include, but are not limited to, CO₂ extraction, alcohol (e.g., ethanol) extraction, and oil extraction (e.g., olive oil

extraction). In the latter, various oils can be used, including, but not limited to, vegetable oils, nut oils, butter and the like. Specific examples include, but are not limited to, almond, avocado, butter, canola, coconut oil, grape seed oil, hemp seed oil, olive, pecan, sesame, and walnut oils.

5 Thus even if the oil is extracted using methods which do not involve oil extraction, oil may be added to the composition to render it more fluid and to dilute the active ingredients such as by a factor of 10-200 (e.g., 100 fold), dependent on the composition of cannabinoids in the cannabis oil and the intended use.

10 Since the present teachings relate to the production of bee products which are endowed with pharmaceutical activities, the composition may further comprise other pharmaceuticals. Such pharmaceuticals can be phytochemicals provided in the composition either in a purified form (e.g., synthetic) or as part of an herbal extract.

15 According to a specific embodiment the pharmaceutical is selected from the group consisting of an anti-allergic agent, an anti-inflammatory agent, an antioxidant, an anti-microbial agent, an antibacterial agent, an antifungal agent, an antiviral agent, an anti-cancer agent, an apoptosis inducing agent and an anti-diarrheal agent.

20 According to a specific embodiment, the extracts are polar or non-polar and/or hydrophobic or hydrophilic extracts. Non-limiting examples of suitable plant extracts are those from Echinacea, Uncaria, Eleutherococcus, Urtica, Calendula, Trifolium, Melissa, Moringa, Ribes, Taraxacum, Chicorium, Vaccinium, Avena, Inula, Melilotus, Ficus, and Beta.

 Examples of such phytochemicals include, but are not limited to, terpenoids, flavonoids, tannins, phenols, saponins, polyphenols, heterosides and alkaloids.

25 Examples of medicinal plants from which active ingredients may be extracted include, but are not limited to, Salvia sclarea, Echinacea purpurea, extracts from citruses. Examples of active ingredients include, but are not limited to, *Heterosides: Anthraquinones, cardiac glycosides, cyanogenics; Coumarins Flavonoids phenols, ranunculoides, saponosides, sulphurides; Polyphenols: Phenolic acids, coumarins, flavonoids, lignans, tannins, quinine; and Terpenoids: Essential oils, iridoids, lactones, diterpenes, saponins. Alkaloids.*

 According to a specific embodiment, the flavanoid is naringin. Naringin is a flavanone-7-O-glycoside between the flavanone Naringenin and the disaccharide neohesperidose. The flavonoids naringenin and hesperetin, which form the aglycones

of naringin and hesperidin, occur naturally in citrus fruits, especially in grapefruit, where naringin is responsible for the fruit's bitter taste. Naringin is indicated as an inhibitor of vascular endothelial growth factor (VEGF) release. Naringin reduces diabetes-induced neuropathy. Naringin ameliorates memory deficits in Alzheimer's disease through attenuating mitochondrial dysfunction. Naringin has shown protective effects against cognitive dysfunction and oxidative damage.

According to a specific embodiment, the pharmaceutical may be a plant-derived pharmaceutical, also referred to herein as a phytochemical.

According to a specific embodiment, the pharmaceutical is not naturally present in (i.e., endogenous to) the cannabis trichome or cannabis oil.

The doses of the CBD and/or THC in the bee-ingestible composition may vary according to the intended use.

For example, CBD finds use in neurological applications (e.g., neurodegenerative disorders such as Alzheimer's disease and Parkinson) as well as inflammation due to its neuroprotective activity and anti-oxidative activity. CBD has anti-psychotic effects and counteracts the potential psychotomimetic effects of THC on individuals with latent schizophrenia and other mood disorders such as bipolar mood disorder, anxiety and more. The compound has been shown to be an alternative treatment for schizophrenia that is safe and well-tolerated. Cannabidiol has also been shown to reduce anxiety in social anxiety disorder. Chronic cannabidiol administration in rats was found to produce anxiogenic-like effects, indicating that prolonged treatment with cannabidiol incite anxiogenic effects. Cannabidiol also finds use is the treatment of epilepsy e.g., Dravet syndrome. CBD is also indicated for use in the treatment of inflammation and can be used for treating diseases such as rheumatoid arthritis, colitis, liver inflammation, heart disease and diabetes.

THC finds use in Multiple sclerosis symptoms:

Spasticity, based on the results of high quality trials, oral cannabis extract was rated as effective, and THC as probably effective, for improving patient's subjective experience of spasticity. Oral cannabis extract and THC both were rated as possibly effective for improving objective measures of spasticity (Koppel BS, Brust JC, Fife T, Bronstein J, Youssouf S, Gronseth G, Gloss D (April 2014). "Systematic review: Efficacy and safety of medical marijuana in selected neurologic disorders: Report of

the Guideline Development Subcommittee of the American Academy of Neurology".
Neurology 82 (17): 1556–63).

Centrally mediated pain and painful spasms. Based on the results of high
quality trials, oral cannabis extract was rated as effective, and THC as probably
5 effective in treating central pain and painful spasms (Koppel, supra).

Neurodegenerative disorders in which cannabis and THC were recently
indicated include, Huntington disease, Parkinson disease. (e.g., ameliorating
levodopa-induced dyskinesia in Parkinson disease), Alzheimer's disease, and other
neurological disorders including but not limited to Tourette syndrome, Cervical
10 dystonia and epilepsy.

THC helps alleviating symptoms suffered both by AIDS patients, and by
cancer patients undergoing chemotherapy, by increasing appetite and decreasing
nausea. It has also been shown to assist some glaucoma patients by reducing pressure
within the eye, and is used in alleviating neuropathic pain and spasticity.

15 Exemplary embodiments of the composition of the present invention are listed
below.

According to a specific embodiment, the composition comprises 50-99.9 %
bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 60-99.9 %
20 bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 70-99.9 %
bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 80-99.9 %
bee food base (e.g., honey e.g., honey+water).

25 According to a specific embodiment, the composition comprises 90-99.9 %
bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 50-90 % bee
food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 60-80 % bee
30 food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 65-70 % bee
food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 60-70 % bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 60-95 % bee food base (e.g., honey e.g., honey+water).

5 According to a specific embodiment, the composition comprises 70-95 % bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 80-95 % bee food base (e.g., honey e.g., honey+water).

10 According to a specific embodiment, the composition comprises 90-95 % bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 95-99.9 % bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 96-99.9 % bee food base (e.g., honey e.g., honey+water).

15 According to a specific embodiment, the composition comprises 97-99.9 % bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 95-99 % bee food base (e.g., honey e.g., honey+water).

20 According to a specific embodiment, the composition comprises 97-99 % bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 98-99 % bee food base (e.g., honey e.g., honey+water).

According to a specific embodiment, the composition comprises 0.1-5 % cannabis oil.

25 According to a specific embodiment, the composition comprises 0.1-4 % cannabis oil.

According to a specific embodiment, the composition comprises 0.1-3 % cannabis oil.

30 According to a specific embodiment, the composition comprises 0.1-2 % cannabis oil.

According to a specific embodiment, the composition comprises 0.1-1 % cannabis oil.

According to a specific embodiment, the composition comprises 0.1-0.9 % cannabis oil.

According to a specific embodiment, the composition comprises 0.1-0.8 % cannabis oil.

5 According to a specific embodiment, the composition comprises 0.1-0.7 % cannabis oil.

According to a specific embodiment, the composition comprises 0.1-0.6 % cannabis oil.

10 According to a specific embodiment, the composition comprises 0.1-0.5 % cannabis oil.

According to a specific embodiment, the composition comprises 0.1-0.3 % cannabis oil.

According to a specific embodiment, the composition comprises 0.1-0.2 % cannabis oil.

15 According to a specific embodiment, the composition comprises 10-600 mg/g THC and/or CBD.

According to a specific embodiment, the composition comprises 10-200 mg/gr THC and/or CBD.

20 According to a specific embodiment, the composition comprises 10-100 mg/gr THC and/or CBD.

According to a specific embodiment, the composition comprises 50-100 mg/gr THC and/or CBD.

Optionally, as mentioned, the composition comprises at least one pharmaceutical (e.g., which is not naturally present in the cannabis oil).

25 According to a specific embodiment, the composition comprises 0.1-1 % pharmaceutical.

According to a specific embodiment, the composition comprises 0.1-0.9 % pharmaceutical.

30 According to a specific embodiment, the composition comprises 0.1-0.8 % pharmaceutical.

According to a specific embodiment, the composition comprises 0.1-0.7 % pharmaceutical.

According to a specific embodiment, the composition comprises 0.1-0.6 % pharmaceutical.

According to a specific embodiment, the composition comprises 0.1-0.5 % pharmaceutical.

5 According to a specific embodiment, the composition comprises 0.1-0.3 % pharmaceutical.

According to a specific embodiment, the composition comprises 0.1-0.2 % pharmaceutical.

10 According to a specific embodiment, the bee food base is present in the composition at an amount of at least 50 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 60 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 70 %.

15 According to a specific embodiment, the bee food base is present in the composition at an amount of at least 80 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 90 %.

20 According to a specific embodiment, the bee food base is present in the composition at an amount of at least 95 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 96 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 97 %.

25 According to a specific embodiment, the bee food base is present in the composition at an amount of at least 98 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 99 %.

30 According to a specific embodiment, the bee food base is present in the composition at an amount of at least 99.1 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 99.2 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 99.3 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 99.4 %.

5 According to a specific embodiment, the bee food base is present in the composition at an amount of at least 99.5 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 99.6 %.

10 According to a specific embodiment, the bee food base is present in the composition at an amount of at least 99.7 %.

According to a specific embodiment, the bee food base is present in the composition at an amount of at least 99.8 %.

According to a specific embodiment, the cannabis oil is present in the bee-ingestible composition at an amount not exceeding 1 %.

15 According to a specific embodiment, the cannabis oil is present in the bee-ingestible composition at an amount not exceeding 0.9 %.

According to a specific embodiment, the cannabis oil is present in the bee-ingestible composition at an amount not exceeding 0.8 %.

20 According to a specific embodiment, the cannabis oil is present in the bee-ingestible composition at an amount not exceeding 0.7 %.

According to a specific embodiment, the cannabis oil is present in the bee-ingestible composition at an amount not exceeding 0.6 %.

According to a specific embodiment, the cannabis oil is present in the bee-ingestible composition at an amount not exceeding 0.5 %.

25 According to a specific embodiment, the cannabis oil is present in the bee-ingestible composition at an amount not exceeding 0.4%.

According to a specific embodiment, the cannabis oil is present in the bee-ingestible composition at an amount not exceeding 0.3 %.

30 According to a specific embodiment, the cannabis oil is present in the bee-ingestible composition at an amount not exceeding 0.2 %.

Of note, water can be added to the composition in order to dilute the active ingredients.

According to a specific embodiment, the water portion does not exceed 35 %.

According to a specific embodiment, the water portion does not exceed 25 %.

According to a specific embodiment, the water portion does not exceed 15 %.

According to a specific embodiment, the composition comprises:

50-99.9 % bee food base;

5 0.1-1 % cannabis oil; and optionally

0.1-1 % pharmaceutical.

The composition is typically prepared by mixing the THC/CBD (e.g., cannabis oil), typically diluted in oil, with the pharmaceutical (when present), hereinafter volume A. In a separate mix, honey and water are combined till 100 %, hereinafter B.

10 The volume of A is deduced from B and the volume is again compensated till 100 % with A. An embodiment is provided below:

- $\text{Pharmaceutical \%} + \text{Cannabis \%} = A$
- $\text{Honey \%} + \text{Water \%} = B$
- The total serve to the bees was: $[(B-A)+A]$

15 Of note all percentages indicated herein refer to w/w, v/v, v/w or w/v.

The bee ingestible composition can be delivered to the bees in a great variety of ways. As detailed herein, bee feeding is common practice amongst bee-keepers, for providing both nutritional and other, for example, supplemental needs. Bees typically feed on honey and pollen, but have been known to ingest non-natural feeds as well. Bees can be fed various foodstuffs including, but not limited to Wheat (a dairy yeast grown on cottage cheese), soybean flour, yeast (e.g. brewer's yeast, torula yeast) and yeast products products-fed singly or in combination and soybean flour fed as a dry mix or moist cake inside the hive or as a dry mix in open feeders outside the hive. Also useful is sugar, or a sugar syrup. The addition of 10 to 12 percent pollen to a supplement fed to bees improves palatability. The addition of 25 to 30 percent pollen improves the quality and quantity of essential nutrients that are required by bees for vital activity.

30 Cane or beet sugar, isomerized corn syrup, and type-50 sugar syrup are satisfactory substitutes for honey in the natural diet of honey bees. The last two can be supplied only as a liquid to bees.

Liquid feed can be supplied to bees inside the hive by, for example, any of the following methods: friction-top pail, combs within the brood chamber, division board feeder, boardman feeder, etc. Dry sugar may be fed by placing a pound or two on the

inverted inner cover. A supply of water must be available to bees at all times. In one embodiment, pan or trays in which floating supports-such as wood chips, cork, or plastic sponge-are present are envisaged. Detailed descriptions of supplemental feeds for bees can be found in, for example, USDA publication by Standifer, et al 1977, 5 entitled "Supplemental Feeding of Honey Bee Colonies" (USDA, Agriculture Information Bulletin No. 413).

As the honey comprises the active ingredients fed to the bees, there is also provided herein is a method of producing honey. The method comprises:

- 10 (a) feeding the bees with the bee ingestible composition as describe herein; and
or concomitantly
- (b) collecting the honey produced by the bees.

Honey extraction is done after or concomitantly with feeding with the bee ingestible composition using methods which are well known to those skilled in the tradition of beekeeping. Measures are taken to feed the bees with the composition at 15 the time of honey production, while restricting their accessibility to field nectar/pollen.

Those of skills in the art of beekeeping will know to time the extraction.

According to some embodiments of the invention, and as orally administered compositions are also evident in the honey (albeit in far lower concentrations than initially administered 1000 fold reduction), the present teachings also contemplate a 20 processed product comprising the honey obtainable according to the present teachings.

Thus, according to an aspect of the invention there is provided honey obtainable according to the methods described herein.

The honey may comprise any cannabis oil metabolite, e.g., cannabinoid, e.g., THC and/or CBD.

25 According to a specific embodiment, the honey is free of plant material e.g., cellulose.

According to a further aspect there is provided honey comprising THC and/or CBD and optionally a pharmaceutical which is not-naturally present in cannabis as described herein.

30 According to a specific embodiment, the honey is characterized in that it comprises 1000 fold lower concentration of THC and/or CBD (and/or the pharmaceutical) than that present in the bee-ingestible composition.

According to a further aspect, there is provided honey which is characterized in that it comprises 10 ppm – 200 ppm THC and/or CBD.

According to a specific embodiment, the honey is characterized in that it comprises 50 ppm – 100 ppm THC and/or CBD.

5 According to a specific embodiment, the honey is characterized in that it comprises 50 ppm – 80 ppm THC and/or CBD.

According to a specific embodiment, the honey is characterized in that it comprises a pharmaceutical.

According to one embodiment the honey is in a semi-solid form.

10 According to one embodiment the honey is in a solid form.

According to one embodiment the honey is in a liquid form.

Throughout this specification, the term honey is used to include any honey-like beehive product, including those that do not fulfill the nutritional definitions of honey as defined by some food regulatory authorities. Natural honey as defined by the
15 National Honey Board of the United States ([http://www\(dot\)nhb\(dot\)org](http://www(dot)nhb(dot)org)) will be referred to as "pure honey" or "regular honey".

A processed product comprising the honeybee products are also contemplated herein e.g., cakes, cookies, bars, candy, grains, chewable honey (e.g., U.S. Pat. No. 8,642,103).

20 According to a further aspect of the invention, there is provided a method of treating a medical condition which is alleviated by cannabis, the method comprising administering to a subject in need thereof a therapeutically effective amount of the honey or a processed product thereof as described herein, thereby treating the medical condition which is alleviated by cannabis.

25 According to a specific embodiment, the medical condition is selected from the group consisting of nausea and pain associated with cancer and chemotherapy; nausea, pain and wasting associated with AIDS; arthritis and rheumatism; glaucoma; migraine; muscle spasticity associated with multiple sclerosis and paralysis; alcohol and narcotics withdrawal; stress; depression; asthma; epileptic seizures, dementia,
30 diabetes, neuropathic pain or diseases associated therewith, and other medical conditions described throughout the specification.

According to a specific embodiment, the subject treated with the composition is a human being, though veterinary indications are also contemplated herein.

The subject may suffer from the disease or be at risk of having it. The subject may be of any gender or age. According to a specific embodiment, the subject is 75 years of age or older.

As used herein the term “about” refers to $\pm 10\%$.

5 The terms "comprises", "comprising", "includes", "including", “having” and their conjugates mean "including but not limited to".

The term “consisting of” means “including and limited to”.

The term "consisting essentially of" means that the composition, method or structure may include additional ingredients, steps and/or parts, but only if the
10 additional ingredients, steps and/or parts do not materially alter the basic and novel characteristics of the claimed composition, method or structure.

As used herein, the singular form "a", "an" and "the" include plural references unless the context clearly dictates otherwise. For example, the term "a compound" or "at least one compound" may include a plurality of compounds, including mixtures
15 thereof.

Throughout this application, various embodiments of this invention may be presented in a range format. It should be understood that the description in range format is merely for convenience and brevity and should not be construed as an inflexible limitation on the scope of the invention. Accordingly, the description of a
20 range should be considered to have specifically disclosed all the possible subranges as well as individual numerical values within that range. For example, description of a range such as from 1 to 6 should be considered to have specifically disclosed subranges such as from 1 to 3, from 1 to 4, from 1 to 5, from 2 to 4, from 2 to 6, from 3 to 6 etc., as well as individual numbers within that range, for example, 1, 2, 3, 4, 5,
25 and 6. This applies regardless of the breadth of the range.

Whenever a numerical range is indicated herein, it is meant to include any cited numeral (fractional or integral) within the indicated range. The phrases “ranging/ranges between” a first indicate number and a second indicate number and “ranging/ranges from” a first indicate number “to” a second indicate number are used
30 herein interchangeably and are meant to include the first and second indicated numbers and all the fractional and integral numerals therebetween.

As used herein the term "method" refers to manners, means, techniques and procedures for accomplishing a given task including, but not limited to, those

manners, means, techniques and procedures either known to, or readily developed from known manners, means, techniques and procedures by practitioners of the chemical, pharmacological, biological, biochemical and medical arts.

As used herein, the term “treating” includes abrogating, substantially
5 inhibiting, slowing or reversing the progression of a condition, substantially
ameliorating clinical or aesthetical symptoms of a condition or substantially
preventing the appearance of clinical or aesthetical symptoms of a condition.

It is appreciated that certain features of the invention, which are, for clarity, described in the context of separate embodiments, may also be provided in combination in a single embodiment. Conversely, various features of the invention, which are, for brevity, described in the context of a single embodiment, may also be provided separately or in any suitable subcombination or as suitable in any other described embodiment of the invention. Certain features described in the context of various embodiments are not to be considered essential features of those embodiments, unless the embodiment is inoperative without those elements.

Various embodiments and aspects of the present invention as delineated hereinabove and as claimed in the claims section below find experimental support in the following examples.

20 **EXAMPLES**

Reference is now made to the following examples, which together with the above descriptions illustrate some embodiments of the invention in a non limiting fashion.

Generally, the nomenclature used herein and the laboratory procedures
25 utilized in the present invention include molecular, biochemical, microbiological and
recombinant DNA techniques. Such techniques are thoroughly explained in the
literature. See, for example, "Molecular Cloning: A laboratory Manual" Sambrook et
al., (1989); "Current Protocols in Molecular Biology" Volumes I-III Ausubel, R. M.,
ed. (1994); Ausubel et al., "Current Protocols in Molecular Biology", John Wiley and
30 Sons, Baltimore, Maryland (1989); Perbal, "A Practical Guide to Molecular Cloning",
John Wiley & Sons, New York (1988); Watson et al., "Recombinant DNA",
Scientific American Books, New York; Birren et al. (eds) "Genome Analysis: A
Laboratory Manual Series", Vols. 1-4, Cold Spring Harbor Laboratory Press, New

York (1998); methodologies as set forth in U.S. Pat. Nos. 4,666,828; 4,683,202; 4,801,531; 5,192,659 and 5,272,057; "Cell Biology: A Laboratory Handbook", Volumes I-III Cellis, J. E., ed. (1994); "Culture of Animal Cells - A Manual of Basic Technique" by Freshney, Wiley-Liss, N. Y. (1994), Third Edition; "Current Protocols in Immunology" Volumes I-III Coligan J. E., ed. (1994); Stites et al. (eds), "Basic and Clinical Immunology" (8th Edition), Appleton & Lange, Norwalk, CT (1994); Mishell and Shiigi (eds), "Selected Methods in Cellular Immunology", W. H. Freeman and Co., New York (1980); available immunoassays are extensively described in the patent and scientific literature, see, for example, U.S. Pat. Nos. 3,791,932; 3,839,153; 3,850,752; 3,850,578; 3,853,987; 3,867,517; 3,879,262; 3,901,654; 3,935,074; 3,984,533; 3,996,345; 4,034,074; 4,098,876; 4,879,219; 5,011,771 and 5,281,521; "Oligonucleotide Synthesis" Gait, M. J., ed. (1984); "Nucleic Acid Hybridization" Hames, B. D., and Higgins S. J., eds. (1985); "Transcription and Translation" Hames, B. D., and Higgins S. J., eds. (1984); "Animal Cell Culture" Freshney, R. I., ed. (1986); "Immobilized Cells and Enzymes" IRL Press, (1986); "A Practical Guide to Molecular Cloning" Perbal, B., (1984) and "Methods in Enzymology" Vol. 1-317, Academic Press; "PCR Protocols: A Guide To Methods And Applications", Academic Press, San Diego, CA (1990); Marshak et al., "Strategies for Protein Purification and Characterization - A Laboratory Course Manual" CSHL Press (1996); all of which are incorporated by reference as if fully set forth herein. Other general references are provided throughout this document. The procedures therein are believed to be well known in the art and are provided for the convenience of the reader. All the information contained therein is incorporated herein by reference.

25

EXAMPLE 1

Feeding Protocols

A feeding protocol was developed aiming to find the range of concentrations of Cannabis oils, Naringin, honey and water suitable for honey bee consumption.

30 The treatments were offered to the honey bees in small cans and attraction data was collected (see FIG. 1 and Table 1 below).

The following parameters were applied:

1. Naringin 98% purity diluted in water.
2. Cannabis oil % in the protocol.
3. Different ratios of CBD and THC in the full profile of Cannabis extracts.
- 5 4. % of honey in the protocol as part of the total honey and water quantity.
5. % of water in the protocol as part of the total honey and water quantity.

Table 1

#	Naringin % w/w	Cannabis oil %w/w	CBD/THC ratio w/w	Honey %w/w	water %w/w	attraction 1-10
1	2	1	5/1	55	45	1
2	2	0.5	2/1	60	40	1
3	2	0.25	1/1	65	35	3
4	2	0.2	1/2	70	30	4
5	2	0.1	1/3	75	25	4
6	1	1	5/1	55	45	3
7	1	0.5	2/1	60	40	3
8	1	0.25	1/1	65	35	5
9	1	0.2	1/2	70	30	6
10	1	0.1	1/3	75	25	6
11	0.5	1	5/1	55	45	4
12	0.5	0.5	2/1	60	40	4
13	0.5	0.25	1/1	65	35	5
14	0.5	0.2	1/2	70	30	9
15	0.5	0.1	1/3	75	25	9
16	0.1	1	5/1	55	45	4
17	0.1	0.5	2/1	60	40	4
18	0.1	0.25	1/1	65	35	5
19	0.1	0.2	1/2	70	30	9
20	0.1	0.1	1/3	75	25	9

- 10 • Naringin%+Cannabis%=A
- Honey%+Water%=B
- The total serve to the bees was: [(B-A)+A]

15 The data in Table 1 above suggests that according to a specific embodiment of the invention:

Honey % should be higher than 65 % (e.g., 70 % or more);

Water % should be lower than 35 %.

EXAMPLE 2

Cannabis Honey Production

Cannabis honey and cannabis honey with Naringin were produced using the feeding protocols.

Table 2

in the oil				in the honey		
Cannabis oil %	Naringin %	CBD%	THC%	CBD ppm	THC ppm	Naringin ppm
0.2	0	2.7	1.6	31	17	0
0.2	0.5	2.7	1.6	30	17	5
0.2	0	10	5	95	52	0
0.2	0.5	10	5	98	49	5

In all preparations the level of cannabinal was less than 10 ppm.

ppm = mg/kg

An exemplary feeding protocol was used to produce Cannabis oil honey with and without Naringin.

Gas chromatography was used to detect the content of the CBD, THC and Naringin in the honey.

The data was expressed in mg/kg = ppm.

The total dilution done by the preparation of the feeding protocol and the honey bees was 1/100,000 and therefore these concentrations in the honey were expected.

EXAMPLE 3

Impact Evaluation on Relevant Subjects

Treatments - The naturally produced cannabis honey and artificially mixed controls yield 8 treatments.

Artificially mixed control (also referred to as “mixture”) refers to - similar concentrations of Naringin, CBD and THC which were prepared without feeding the honey bees but by simple mechanical mixing of the ingredients with honey.

Alternatively, two placebo treatments are added containing only pure honey.

The treatments are summarized in Table 3 below.

Table 3

		in the oil				in the honey		
# treatment	Cannabis oil %	Naringin %	CBD%	THC%	CBD ppm	THC ppm	Naringin ppm	
1	0.2	0	2.7	1.6	31	17	0	
2 Mixture	0.2	0	2.7	1.6	31	17	0	
3	0.2	0.5	2.7	1.6	30	17	5	
4 Mixture	0.2	0.5	2.7	1.6	30	17	5	
5	0.2	0	10	5	95	52	0	
6 Mixture	0.2	0	10	5	95	52	0	
7	0.2	0.5	10	5	98	49	5	
8 Mixture	0.2	0.5	10	5	98	49	5	
9 Placebo	0	0	0	0	0	0	0	
10 Placebo	0	0	0	0	0	0	0	

Subjects for the trial are selected from adults > 80 years old suffering from the following symptoms:

- Strong level of pain;
- Early Alzheimer's disease symptoms;
- Low appetite; and
- Depression.

Subjects or an appointed legal guardian provide informed consent.

The quantity of the serving is 5 grams oral spoon supply of honey from the 10 different treatments as described in Table 3 above.

A professional team observe the subjects and collects the data.

Results:

The results are presented in Table 4 below.

Each treatment group includes 4 subjects (n=4) administered with the same treatment and dosage.

The observations are subjective and collected by interviewing the participants. The parameters definitions are:

1. Time till initiation of effect: The time in half minutes till the subject feels a difference in general feeling;
2. Time till termination of effect: Time in half hours till effects stops;
3. Pain level: 1 minimal pain – 10 maximal pain;
4. Communication level: 1 low communication level – 10 high communication level;
5. Appetite level: 1 low appetite level – 10 high appetite level; and
6. General feeling: 1 low general feeling – 10 high general feeling.

Although the invention has been described in conjunction with specific embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, it is intended to embrace all
5 such alternatives, modifications and variations that fall within the spirit and broad scope of the appended claims.

All publications, patents and patent applications mentioned in this specification are herein incorporated in their entirety by reference into the specification, to the same extent as if each individual publication, patent or patent application was specifically
10 and individually indicated to be incorporated herein by reference. In addition, citation or identification of any reference in this application shall not be construed as an admission that such reference is available as prior art to the present invention. To the extent that section headings are used, they should not be construed as necessarily limiting.

WHAT IS CLAIMED IS:

1. A bee ingestible composition comprising a bee food base and THC and/or CBD.
2. The bee ingestible composition of claim 1, comprising cannabis oil.
3. The bee ingestible composition of claim 1, further comprising oil for rendering the composition more fluid.
4. The bee ingestible composition of claim 3, wherein said oil comprises an olive oil.
5. The bee ingestible composition of any one of claims 1-4, wherein said bee food base is in a solid form.
6. The bee ingestible composition of claims 1-4, wherein said bee food base is in a liquid form.
7. The bee ingestible composition of claims 1-4, wherein said bee food base is in a semi-solid form.
8. The bee ingestible composition of claims 1-4, being a paste.
9. The bee ingestible composition of any one of claims 1-8, wherein said bee food base comprises a natural bee feed.
10. The bee ingestible composition of any one of claims 1-8, wherein said bee food base comprises a non-natural bee feed.
11. The bee-ingestible composition of any one of claims 1-10, wherein said bee food base is selected from the group consisting of honey, pollen, nectar, a carbohydrate solution and mixtures thereof.

12. The bee-ingestible composition of any one of claims 1-11, wherein said bee food base is selected from the group consisting of wheat, soybean flour, yeast, corn syrup, beet sugar syrup, isomerized corn syrup and type-50 sugar syrup.

13. The bee-ingestible composition of any one of claims 1-10, wherein said bee food base is honey.

14. The bee ingestible composition of any one of claims 2-13, wherein said cannabis oil comprises said THC and/or CBD.

15. The bee-ingestible composition of any one of claims 1-14, further comprising a pharmaceutical selected from the group consisting of an anti-allergic agent, an anti-inflammatory agent, an antioxidant, an anti-microbial agent, an antibacterial agent, an antifungal agent, an antiviral agent, an anti-cancer agent, an apoptosis inducing agent and an anti-diarrheal agent.

16. The bee-ingestible composition of claim 15, wherein said pharmaceutical is a plant-derived pharmaceutical.

17. The bee-ingestible composition of claim 15, wherein said pharmaceutical is not naturally present in cannabis trichome or cannabis oil.

18. The bee-ingestible composition of claim 16 or 17, wherein said pharmaceutical is selected from the group consisting of a flavanoid, a heteroside, a polyphenol and a terpenoid.

19. The bee-ingestible composition of claim 18, wherein said flavanoid is naringin.

20. The bee-ingestible composition of any one of claims 1-18, wherein said bee food base is present in the bee-ingestible composition at an amount of at least 50 %.

21. The bee-ingestible composition of any one of claims 2-20, wherein said CBD and/or THC in said cannabis oil is present in the bee-ingestible composition at an amount not exceeding 1 %.

22. The bee-ingestible composition of any one of claims 1-20, comprising:
50-99.9 % bee food base;
0.1-5 % cannabis oil; and optionally
0.1-1 % pharmaceutical.

23. A method of producing honey comprising:
(a) feeding bees with the bee ingestible composition of any one of claims 1-22; and
(b) collecting the honey produced by said bees.

24. Honey obtainable according to the method of claim 23.

25. The honey of claim 24, being substantially free of plant material.

26. Honey comprising THC and/or CBD and a pharmaceutical which is not-naturally present in cannabis.

27. The honey of claim 26, wherein said pharmaceutical comprises a plant derived pharmaceutical.

28. The honey of claim 24, characterized in that it comprises 1000 fold lower concentration of THC and/or CBD than that present in said bee-ingestible composition.

29. Honey comprising 10 ppm – 200 ppm THC and/or CBD.

30. The honey of claim 29, comprising 50 ppm – 100 ppm THC and/or CBD.

31. The honey of claim 29, comprising 50 ppm – 80 ppm THC and/or CBD.

32. The honey of any one of claims 29-31, further comprising a pharmaceutical.

33. The honey of any one of claims 24-32, being in a semi-solid form.

34. The honey of any one of claims 24-32, being is a solid form.

35. The honey of any one of claims 24-32, being in a liquid form.

36. A processed product comprising the honey of any one of claims 24-32.

37. A method of treating a medical condition which is alleviated by cannabis, the method comprising administering to a subject in need thereof a therapeutically effective amount of the honey or a processed product thereof of any one of claims 24-36, thereby treating the medical condition which is alleviated by cannabis.

38. The method of claim 37, wherein said medical condition is selected from the group consisting of nausea and pain associated with cancer and chemotherapy; nausea, pain and wasting associated with AIDS; arthritis and rheumatism; glaucoma; migraine; muscle spasticity associated with multiple sclerosis and paralysis; alcohol and narcotics withdrawal; stress; depression; asthma; epileptic seizures and dementia.

ABSTRACT OF THE DISCLOSURE

A bee ingestible composition comprising a bee food base and THC and/or CBD is provided. Also provided are methods of producing honey, honey obtainable by these methods and uses of same.

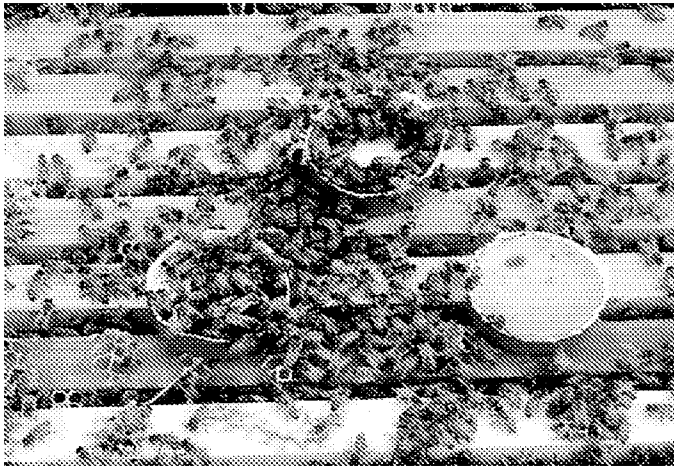


FIG. 1

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	61794
		Application Number	
Title of Invention	BEE-INGESTIBLE COMPOSITIONS, METHODS OF USING SAME FOR PRODUCING HONEY AND HONEY PRODUCED THEREBY		

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.

This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to

☐ 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

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For further information see 37 CFR 1.33(a).

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Application Information:

Title of the Invention	BEE-INGESTIBLE COMPOSITIONS, METHODS OF USING SAME FOR PRODUCING HONEY AND HONEY PRODUCED THEREBY		
Attorney Docket Number	61794	Small Entity Status Claimed ☒	
Application Type	Provisional		
Subject Matter	Utility		
Suggested Class (If any)		Sub Class (If any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	1	Suggested Figure for Publication (if any)	

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	61794
		Application Number	
Title of Invention	BEE-INGESTIBLE COMPOSITIONS, METHODS OF USING SAME FOR PRODUCING HONEY AND HONEY PRODUCED THEREBY		

Publication Information:
☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	67801		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Application Number	Country	Filing Date (YYYY-MM-DD)	Priority Claimed
			☐ Yes ☐ No

Authorization to Permit Access:
☒ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h) (3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	61794
		Application Number	
Title of Invention	BEE-INGESTIBLE COMPOSITIONS, METHODS OF USING SAME FOR PRODUCING HONEY AND HONEY PRODUCED THEREBY		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

☒ Assignee

☐ Legal representative under 35 U.S.C 117

☐ Person to whom the inventor is obligated to assign.

☐ Person who shows sufficient propriety interest

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Assignee is an Organization check here. ☒

Organization Name Phytopharma International Ltd.

Mailing Address Information:

Address 1 1 HaDekel Street, 2nd Floor

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Postal Code

3009500

Phone Number

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Email Address

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature	/Jason Rosenblum/		Date (YYYY-MM-DD)	2015-07-22	
First Name	Jason	Last Name	Rosenblum	Registration Number	56437

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which

is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Acknowledgement Receipt

EFS ID:	22983733
Application Number:	62195311
International Application Number:	
Confirmation Number:	4042
Title of Invention:	BEE-INGESTIBLE COMPOSITIONS, METHODS OF USING SAME FOR PRODUCING HONEY AND HONEY PRODUCED THEREBY
First Named Inventor/Applicant Name:	Amit Dov AVIDOV
Customer Number:	67801
Filer:	Jason Rosenblum
Filer Authorized By:	
Attorney Docket Number:	61794
Receipt Date:	22-JUL-2015
Filing Date:	
Time Stamp:	05:37:25
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 200
RAM confirmation Number	7442
Deposit Account	501407
Authorized User	ROSENBLUM, JASON H.

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	61794TransmittalSheetProvisionalApplicationFiledon22July2015.pdf	44747 7210765b66ad54c2fb59132338a7bbcbf83d240b	no	1
Warnings:					
Information:					
2	Specification	61794.pdf	162614 7918d3127285c7defd8127113485896d083d8ec8	no	31
Warnings:					
Information:					
3	Drawings-other than black and white line drawings	61794Figures.pdf	336809 f128a240b2d1be0102275870b3658e638eb2bdab	no	1
Warnings:					
Information:					
4	Application Data Sheet	61794ApplicationDataSheet.pdf	62959 c69fd1b2b592122d5e91f48071b43dba34e4314d	no	3
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
5	Petition for review by the Office of Petitions	61794PetitiontoAcceptColorDrawings.pdf	18594 d1284b41c0a628ca353efed45f43b793358d2b62	no	1
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	31955 1e06006d955575d4e5adc0aeef7dffb0fa92504	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			657678		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

SCORE Placeholder Sheet for IFW Content

Application Number: 62195311

Document Date: 07/22/2015

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