

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number
WO 2005/062713 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/IL2004/001179

(22) International Filing Date:
29 December 2004 (29.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/533,709 31 December 2003 (31.12.2003) US

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
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TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.



WO 2005/062713 A2

(54) Title: BETA VULGARIS-BASED PRODUCTS

(57) Abstract: Products based on beta vulgaris and especially red beet and methods for producing the same are provided. The orally administered beta vulgaris based products are adapted to be used for reducing homocystein levels as well as reducing the cholesterol levels in the blood among other therapeutic effects.

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BETA VULGARIS - BASED PRODUCTS

FIELD OF THE INVENTION

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The present invention relates to products based on beta vulgaris. More particularly, the present invention relates to products such as beverages, juices, seasonings, vinegar, or delicacies based especially on red beet, as well as products for external use.

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BACKGROUND OF THE INVENTION

Beta vulgaris and especially red beet had been shown to contain substances such as folic acid, betain, and vitamin B6 that facilitate in balancing the levels of homocystein in the blood. Reducing and normalization of the homocystein levels by those three substances was shown by Lalouschek et al. in 1996 and Sella & Dolman in 1999. Red beet had been also used as treatment for high blood pressure (Krispil 2000) and had been shown to reduce the blood pressure and the LDL cholesterol levels in the blood of patients treated with a sugar beet fiber reach diet (Hagander et al., 1989). Red beet had been shown also to act as an antioxidant (Kahkonen et al. 1999; Kujala et al. 2000) and had been ranked as one of the 10 leading vegetables having antioxidation effect (Kujala et al. 2000).

25 Another component that has been shown to be in substantial amounts relative to other vegetables are phytoestrols. Phytoestrols from a vegetable source had been shown by Jones et al. to reduce the cholesterol level in the blood.

Red beet contains also fibers that had been shown to increase the activity of Glutathion peroxidase in the liver of rats. In rats fed with a diet containing 15% isolated fibers of red beet, the activity of the enzyme was

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increased (Bobek et al. 2000) wherein the enzyme is known for its antioxidant activity in cells and membranes (Shils et al.).

Beta vulgaris and especially red beet was provided also as supportive treatment in liver diseases and in fatty liver by PDR in 1999 and Weiss in
5 1988.

It should be emphasized that other components having therapeutic effect were found to be present in red beet.

The effects shown herein are attributed to the natural compositions of the substances in the red beet root or leaves and red beet has to be consumed as
10 natural as possible in order to utilize its components in order to reduce the cholesterol and the homocysteine levels in the blood as well as to improve liver functionality. However, red beet is a vegetable that is hard to process to an edible form without fully or partially eliminating the active components. Moreover, red beet has a taste that is not favorable by many populations.
15 Therefore, has to be processed in an alternative manner so as to become favorable to populations that are not familiar with the taste of red beet or are not used to consume red beet.

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SUMMARY OF THE INVENTION

It is an object of the present invention to provide edible and non edible products that are based on beta vulgaris containing components having antioxidant effect among other therapeutic effects, and methods to produce
25 the same.

It is another object of the present invention to provide alcoholic and non-alcoholic beverages that are based on beta vulgaris, and methods to produce the same.

It is yet another object of the present invention to provide products based
30 on red beet that are provided with other additives based on other herbs as well as sweeteners, food supplements etc. that can be used as well, so as to improve the effect of the products in the body.

In addition, it is an object of the present invention to provide beta vulgaris and especially red beet-based products in the form of beverages or paste that can be provided as food supplements.

It is therefore provided in accordance with a preferred embodiment of the present invention a method of reducing homocystein levels as well as reducing the cholesterol levels in the blood among other therapeutic effects by orally administering a subject with beta vulgaris-based composition prepared by a process comprising:

- 10 preparing juice from beta vulgaris root;
- adding sweetening agent;
- filtering the resulting juice,

Furthermore, in accordance with another preferred embodiment of the present invention, the process further comprising fermenting the mixture.

15 Furthermore, in accordance with another preferred embodiment of the present invention, the process further comprising adding carbon dioxide.

Furthermore, in accordance with another preferred embodiment of the present invention, the process further comprising adding yeasts and fermenting the resulting juice.

20 Furthermore, in accordance with another preferred embodiment of the present invention, said beta vulgaris root is pilled.

Furthermore, in accordance with another preferred embodiment of the present invention, said beta vulgaris is red beet.

25 Furthermore, in accordance with another preferred embodiment of the present invention, said sweetening agent is selected from a group comprising fruit extract (preferably apple extract), beet molasses, sugar cane molasses, honey, maltose, brown or white sugar, sweet pomegranate extract, oligofructose, oligosaccharides.

30 Furthermore, in accordance with another preferred embodiment of the present invention, the process further comprising fermenting the resulting juice; allowing natural acidation; filtering the juice; and adding bacteria so as to produce vinegar or seasoning.

Furthermore, in accordance with another preferred embodiment of the present invention, the process further comprising heating the juice; adding gelling additive; steering the mixture until the mixture is fully homogenous; and cooling the mixture so as to produce jelly.

5 Furthermore, in accordance with another preferred embodiment of the present invention, said gelling additive is selected of a group comprising agar agar, tragacanth gum, gelatine, or pectin.

Furthermore, in accordance with another preferred embodiment of the present invention, the process further comprising adding lemon juice.

10 Furthermore, in accordance with another preferred embodiment of the present invention, the process further comprising adding oil and adding lechitin so as to produce paste adapted for spreading.

Furthermore, in accordance with another preferred embodiment of the present invention, said oil is olive oil.

15 Furthermore, in accordance with another preferred embodiment of the present invention, the process further comprising adding medical herbs.

It is further provided in accordance with another preferred embodiment of the present invention, a method of reducing homocystein levels as well as reducing the cholesterol levels in the blood among other therapeutic effects by orally administering a subject with beta vulgaris-based composition prepared by a process comprising:

preparing juice from beta vulgaris root;
drying said juice into powder;

25 Furthermore, in accordance with another preferred embodiment of the present invention, the process further comprising encapsulating said powder.

Furthermore, in accordance with another preferred embodiment of the present invention, said beta vulgaris is a red beet.

In addition, it is provided in accordance with yet another preferred embodiment of the present invention, a method of reducing effects of gynecologic problems such as menopause, PMS, and fertility problems by orally administering a female with red beet-based composition comprising:

dry red beet extract;

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