(54) Title: A METHOD OF ALTERING AND IMPROVING TASTE CHARACTERISTICS OF EDIBLE CONSUMABLES WITH MONOMERIC OR OLIGOMERIC POLYPHENOLIC COMPOUNDS

(57) Abstract: This invention is directed to a method of modifying or altering the taste and/or flavor characteristics, such as aromatics, blendedness, creaminess, mouthfeel, fullness, saltiness, sourness, bitterness, onset of initial flavor perception or alcohol perception, of edible consumables, especially brown foods, dairy products, citrus, alcoholic beverages, dietetic foods, low fat foods and fat-free foods, by incorporating in such foods or beverages an effective amount of a polyphenolic material selected from (a) a monomeric polyphenol, (b) an oligomeric polyphenol, (c) a mixture of monomeric and oligomeric polyphenolic materials and (d) a mixture of any or all of said polyphenolic materials with a polymeric polyphenolic material.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A23L1/30 A23L1/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A23L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, FSTA, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
<td>E</td>
<td>WO 01 11988 A (DRY CREEK NUTRITION INC) 22 February 2001 (2001-02-22) page 9, line 18 -page 35, line 15; claims ---</td>
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<td>X</td>
<td>US 4 906 480 A (KASHKET SHELBY) 6 March 1990 (1990-03-06) column 1, line 49 -column 2, line 58; claims 1-12 ---</td>
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<td>X</td>
<td>WO 99 18811 A (KURPPA LASSE JUHANI ;ITARA H K AB OY (FI)) 22 April 1999 (1999-04-22) page 2, line 5 - line 12; claims 1,3,4,6 ---</td>
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</table>

[X] Further documents are listed in the continuation of box C.  
[X] Patent family members are listed in annex.

"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"C" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
"*" document member of the same patent family

Date of the actual completion of the international search: 11 May 2001

Date of mailing of the international search report: 03 September 2001

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk
Tel. (+31-70) 340-3040, Tx. 31 651 epc nl, Fax: (+31-70) 340-3016

Authorized officer
Vernier, F
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<tr>
<td>X</td>
<td>PELEG H ET AL: &quot;Bitterness and astringency of flavan-3-ol monomers, dimers and trimers&quot;&lt;br&gt;JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE, ELSEVIER APPLIED SCIENCE PUBLISHERS. BARKING, GB, vol. 79, no. 8, 1999, pages 1123-1128, XP002152495&lt;br&gt;ISSN: 0022-5142&lt;br&gt;page 1123 -page 1124&lt;br&gt;page 1126 -page 1127</td>
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INTERNATIONAL SEARCH REPORT

Box I  Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
   because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
   because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II  Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☑ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

   1 - 10 (part), 11 - 15

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-10(part), 11-15

   Method for modifying aromatics in foods or beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.

2. Claims: 1-10(part), 16-20, 68-73(part), 74-77(part)

   Method for modifying blendedness in foods or beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.

3. Claims: 1-10(part), 26-33

   Method for modifying creaminess in foods or beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.

4. Claims: 1-10(part), 21-25, 68-73(part), 74-77(part)

   Method for modifying mouthfeel in foods or beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.

5. Claims: 1-10(part), 34-38, 68-73(part), 74-77(part)

   Method for modifying fullness in foods or beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.

6. Claims: 1-10(part), 39-43

   Method for modifying saltiness in foods or beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.

7. Claims: 1-10(part), 44-48

   Method for modifying sourness in foods or beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.

8. Claims: 1-10(part), 49-53

   Method for modifying bitterness in foods or beverages by
incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.

9. Claims: 1-10(part),54-58

Method for modifying onset of initial flavour perception in foods or beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.


Method for modifying alcohol perception in beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.


Method for modifying smoothness in foods or beverages by incorporating from 0.0001% to 0.10% by weight of a polyphenolic compound.
# INTERNATIONAL SEARCH REPORT

**International Application No:**

PC1/US 01/02333

<table>
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<th>Publication date</th>
<th>Patent family member(s)</th>
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<tr>
<td>WO 0111988 A</td>
<td>22-02-2001</td>
<td>AU 6764900 A</td>
<td>13-03-2001</td>
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<td>US 4906480 A</td>
<td>06-03-1990</td>
<td>CA 1334806 A</td>
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<td>AU 9443898 A</td>
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<td>EP 1032279 A</td>
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<td>NO 20001835 A</td>
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Form PCT/ISA/210 (patent family annex) (July 1992)