



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| <p>(54) Title: METHOD OF COOKING BROAD BEANS</p> <p>(57) Abstract</p> <p>A method of preparing a food product which uses a broad bean soaked sufficiently to enable easy removal of a skin, a boiling step to promote porosity of the bean and then a deep frying as a cooking step.</p>   |                  |  |

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METHOD OF COOKING BROAD BEANS

This invention relates to a food product.

- It is well known that there is a continuing demand for products that can be considered "tasty" which can have long keeping properties even in less than ideal conditions, and which can be based upon and prepared in such a way that the end product can be sold economically.
- 5.
10. Examples of such products are well known and include nuts of various types such as peanuts, cashew nuts, almonds and so on.
- Some present examples of food have been traditionally considered as simply not appropriate.
- 15.
- An item of this type that has hitherto been considered not appropriate is the bean and especially the variety "broad bean" (Picia Faba) which comprise kidney shaped beans which have a closely adhering skin and a very hard meat portion. Such beans are conventionally known as a vegetable which can be softened by extensive cooking in water and then eaten as a hot vegetable.
- 20.
25. I have discovered after extensive development, trials and sampling that a food of this type can be prepared so as to be appropriate for a snack type food to be eaten cold which is extremely tasty, appropriate for casual eating and which will be longlasting.
- 30.



2.

According to this invention there is proposed then a method of preparing food which comprises the steps of soaking broad beans in water, peeling the thus soaked beans, then subjecting the beans

5. to a cooking temperature sufficient to effect a cooking of each of the peeled beans.

According to a further form of this invention, there is included subsequent to peeling of the broad

10. beans the steps of cooking by immersion in hot or boiling water prior to the step of cooking by immersion or subjection to hot or boiling fat or oil.

According to a further form of this invention

15. this can be said to reside in the steps of first soaking a broad bean within water to such an extent as to allow for easy removal of the outer skin of the broad bean, effecting removal of the outer skin of the broad bean, subjecting the broad bean then

20. to boiling for a short period within water, and then deep frying the broad bean in oil for a sufficient time to effect cooking of the broad bean.

According to a further form of this invention,

25. this can be said to reside in the step of subjecting a broad bean to a soaking in cold water for a period of approximately 48 hours, peeling an outer skin of the broad bean, subjecting the broad bean to boiling water by immersion in such boiling water

30. for a period of approximately 1 minute or longer, and then deep frying the broad bean for a period of approximately five to twenty minutes.



3.

5. The resultant product can comprise a food which has a popular flavour, is nutritious, and retains good adhesion within the substance of the particle and which with the addition of flavouring materials and salt can be of particular value in providing for commercially available longlasting snack foods.

10. It has been a significant discovery that a vegetable has been found to be capable of treatment such that it can be a highly desirable and tasty article.

15. For a better understanding of this invention it will now be described with respect to a preferred example.

EXAMPLE 1.

20. A batch of freshly picked broad beans which will result in a weight of 30 kilograms of beans when skinned and prior to the immersion in boiling water are separated respectively from their shells and are deposited into a container into which fresh water is placed so as to adequately cover all of the beans within  
25. the container. The water in this example is held at ambient temperature which will be approximately 15°C. and the beans are left so covered soaking within the said fresh water for 48 hours.

30. At the end of this period, the beans are extracted from beneath the water and it is found that in each case, a skin which has hitherto been tightly secure around the so-called meat of the bean can now be



- meat of the bean can now be manually removed and accordingly each of the beans after this soaking have their skin removed it being found that this can be done very easily in a manual manner so that
5. each bean is handled by a worker who can break the skin and can then very simply peel this away leaving in a very clean manner the meat.

- The next step is that the skinned beans the weight of which at this stage is 30 kilograms are collectively heated with boiling water by deposition of the beans collectively in a mesh basket into a vat of boiling water and being kept in the boiling water for two minutes.
- 10.

- The mesh basket with the beans therein is then lifted and the water is allowed to drain and the beans still in the mesh basket are then immersed into a vat of sunflower oil which is initially at a temperature of  $240^{\circ}\text{C}$ . (which may cool to as low as  $200^{\circ}\text{C}$ . and rise back to  $240^{\circ}\text{C}$ . during the cooling period).
- 15.
- 20.

- The beans are held in this oil at this temperature for a period of nine minutes and are then withdrawn and once again allowed to drain.
- 25.

The beans are then and before being separated from the mesh, allowed to cool are shaken together with salt and seasoning.

- The result is a food product that in trials thus far have had very long keeping properties, have a texture which is slightly porous but essentially dry but which is generally firm to hold so that the inherent body characteristic of the bean is maintained that is, a product results which is "crunchy".
- 30.
- 35.



5.

The article is therefore dry to hold but has a porous texture allowing for the product to be easily masticated.

5.           EXAMPLE 2

10.           In a further example, the fresh beans as in Example 1 are treated in like manner including soaking in fresh water for 48 hours and then having their skins removed.

15.           The beans are then however immersed directly in safflower oil held at 240°C. for fifteen minutes and then withdrawn and allowed to drain and the beans are then shaken with salt in finely ground form and seasoning to taste before cooling and once again provides a product which has been found good to taste and eat.

20.           The characteristics of the product however are such that it is significantly less porous and therefore somewhat harder and the infusion of oil seems to be more superficial. The product however maintains a good body characteristic and once again is an acceptable product in terms of an acceptable taste and long keeping.

30.           The inclusion of the boiling in water or other steam infusion into the bean provides in it a porosity which is an improvement for purposes of easier mastication and an improvement with respect to its ability to hold flavour giving additives as well as absorbtion and adsorbtion of salt.



6.

With respect to the first soaking, it has been found that the softening necessary for easy removal of the skins can be promoted by heating of the water although this is a less preferred method because

5. it involves costs associated with heating and keeping the water heated for a significant period of time.

The method of removing the skins has been referred to as manual but it is known and understood that

10. mechanical devices can be used once the skins have been softened so as to break and then grip and remove the skin from at least a majority of the beans in any batch.

The period for immersion of the beans in boiling water is selected so as to result in the preferred degree of porosity. Two minutes has been selected because this has been found to give a preferred result but a longer time can be used although an

15. excessive time which can be as short as three minutes can result in the structure of the body of each bean disintegrating.

20.

For the frying step, appropriate fat or oil

25. held at a temperature of between 200°C. to 240°C. has been found adequate and the time is adjusted accordingly for the cooking process for the result to be according to taste but it will also be significantly varied with different batch quantities.

30. For instance very small quantities such as one kilogram will not cool a vat of hot liquid so much on introduction as 30 kilograms. The times for small batches are significantly reduced.



7.

Reference has been made throughout this specification to broad beans and it is known that there are varieties of broad beans in which the beans have in one instance a maximum length of approximately four centimetres or in another instance maximum length of one centimetre or even less.

A characteristic of the food product that is being treated is that it is conventionally without any treatment, an article that contains a skin that is unpalatable, and a meat that is conventionally very hard and while it can be cracked and to some extent eaten by those willing to attempt such mastication, they are generally not considered acceptably palatable.

The invention is applicable to beans having the above characteristics.



8.

1. A method of preparing an article of food which comprises the steps of soaking a broad bean in water, peeling the thus soaked bean, then subjecting the bean to a cooking temperature sufficient to effect a cooking of the said peeled bean.
2. A method of preparing a food product which comprises the steps of soaking a broad bean within water for such a period as to allow for easy removal of the outer skin of the broad bean, effecting removal of the outer skin of the broad bean, boiling the broad bean with the outer skin removed, and then deep frying the broad bean sufficiently to effect a cooking of the broad bean.
3. A method of preparing a food product which comprises the steps of soaking a broad bean in water for a period of approximately 48 hours, peeling an outer skin of the broad bean thus soaked, boiling the broad bean in water for a period of approximately two minutes, and then deep frying the broad bean at a temperature within the range of substantially 200°C. to 240°C. for a period within the range of five to twenty minutes.



9.

4. A food product when made according to any one of the preceding claims.

5. A food product substantially as described in the specification.



# INTERNATIONAL SEARCH REPORT

International Application No PCT/AU 84/00027

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|--|--|-------------------------------------|
| <b>I. CLASSIFICATION OF SUBJECT MATTER</b> (If several classification symbols apply, indicate all) <sup>3</sup>  |  |                                     |
| According to International Patent Classification (IPC) or to both National Classification and IPC<br>Int. Cl. <sup>3</sup> A23L 1/20   |  |                                     |
| <b>II. FIELDS SEARCHED</b>   |  |                                     |
| Minimum Documentation Searched <sup>4</sup>  |  |                                     |
| Classification System  | Classification Symbols   |                                     |
| IPC<br>US Cl.  | A23L 1/20<br>426/481, 426/507, 426/508, 426/634  |                                     |
| Documentation Searched other than Minimum Documentation<br>to the Extent that such Documents are Included in the Fields Searched <sup>5</sup>  |  |                                     |
| AU: IPC as above; Australian Classification 34.7   |  |                                     |
| <b>III. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <sup>14</sup>  |  |                                     |
| Category <sup>8</sup>  | Citation of Document, <sup>16</sup> with indication, where appropriate, of the relevant passages <sup>11</sup> | Relevant to Claim No. <sup>18</sup> |
| X  | AU, B, 37651/68 (428750) (RALSTON PURINA COMPANY)<br>20 November 1969 (20.11.69) See page 7 lines 8-22.        | (1-5)                               |
| X  | GB, A, 2046076 (BRITISH SOYA PRODUCTS) 12 November 1980<br>(12.11.80) See page 1 lines 16-20.                  | (1-5)                               |
| X  | GB, A, 1418790 (CADBURY LIMITED) 24 December 1975<br>(24.12.75) See page 1 lines 12-24.                        | (1-5)                               |
| A  | US, A, 2135593 (NOHE) 8 November 1938 (08.11.38)   |                                     |
| A  | US, A, 2135594 (NOHE et al) 8 November 1938 (08.11.38)   |                                     |
| A  | US, A, 1774110 (SLOAT) 26 August 1930 (26.08.30)   |                                     |
| <p><sup>15</sup> Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"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</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"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.</p> <p>"&amp;" document member of the same patent family</p> |  |                                     |
| <b>IV. CERTIFICATION</b>   |  |                                     |
| Date of the Actual Completion of the International Search <sup>2</sup>   | Date of Mailing of this International Search Report <sup>3</sup>   |                                     |
| 8 May 1984 (08.05.84)  | 16 MAY 1984 (16.05.84)   |                                     |
| International Searching Authority <sup>1</sup>   | Signature of Authorized Officer <sup>10</sup>  |                                     |
| Australian Patent Office   | A.S. Moore <i>A.S. Moore</i>   |                                     |

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON  
INTERNATIONAL APPLICATION NO. PCT/AU 84/00027

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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Patent Document  
Cited in Search  
Report

Patent Family Members

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AU 37651/68

DE 1767409

FR 1580933

GB 1220833

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END OF ANNEX