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(54) MOIST NON-TOBACCO SNUFF PRODUCT

FEUCHTES NICHTTABAKPRODUKT ZUM SCHNUPFEN

PRODUIT À PRISER SANS TABAC HUMIDE

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EP 2 150 137 B1

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DescriptionField of invention

5 **[0001]** The invention relates to a moist non-tobacco snuff product comprising cocoa shell fibers, and optionally additional component(s) of food grade, provided in a form for oral placement. The invention further provides a process for production of said non-tobacco snuff product.

Background

10 **[0002]** Use of tobacco is widespread in society. Tobacco is commonly smoked, chewed, or used as snuff. Snuff is available in two forms; dry for sniffing, and moist (or wet), for buccal placement in the mouth cavity.

[0003] Unfortunately, nicotine contained in tobacco is dependence producing, thus creating addiction. This is one aspect of increased attention by society in general and the medical profession in particular.

15 **[0004]** US4811746 A discloses a substitute for oral smokeless tobacco based on tea fragments and a method for its manufacture. WO2004/056218 A1 disclose a tobacco moist snuff composition comprising a thickening agent. US 2007/000506 A1 discloses a tobacco-like product comprising a base material including coffee, tea, cocoa or soy.

[0005] Consequently, there exists a need for non-tobacco products as replacement for tobacco products. In respect of snuff, this demand has been satisfied by the supply of dry and moist snuff products, respectively, that are devoid of tobacco. These products express an improved health profile, and are suitable for people who wish to discontinue their use of tobacco-containing snuff, or alternatively for people who want to commence using snuff, but without the deleterious health effects. Moist non-tobacco snuff most closely resembles ordinary tobacco-containing snuff, and is thus commonly the preference. However, it lacks the full-bodied texture of ordinary tobacco-containing snuff, thus reducing its attractiveness to former snuff users.

25 **[0006]** Moist non-tobacco snuff may, depending on the components used, be associated with various production-oriented drawbacks. Consequently, there exists a need for an improved non-tobacco snuff product that can be efficiently produced.

[0007] The current invention provides an improved snuff product devoid of tobacco and containing cocoa fibers, as well as a process for its manufacture.

Description of the inventionSnuff product

35 **[0008]** The non-tobacco snuff product according to the present invention pertains to a snuff product comprising cocoa shell fibers. Such cocoa fibers are available commercially, and are a residual product in the production of cocoa. During preparation, the parenchyma is removed from the cocoa fruit, whereupon the cocoa beans are cleaned, dried and broken up. The shells are separated from the nibs, whereby the shells are essentially free from cocoa. The fibers are sterilized, dried and finally roasted, to produce food-grade fibers. These fibers are subsequently grinded or shredded to produce the fibers suitable as bulk material to be used in the current invention.

40 **[0009]** According to a first aspect of the current invention, there is provided a moist non-tobacco snuff product comprising cocoa shell fibers in an amount of 5-100 % by weight of plant fiber bulk material of the product, and optionally additional component(s) of food grade, provided in a form for oral placement.

[0010] According to one embodiment of the invention, the moist non-tobacco snuff product has an amount of cocoa shell fibers of from 5 to 60 % by weight of plant fiber bulk material of the product.

45 **[0011]** According to another embodiment of the invention, the moist non-tobacco snuff product has an amount of cocoa shell fibers of from 20 to 50 % by weight of the plant fiber bulk material of the product.

[0012] However, the moist non-tobacco snuff product may have an amount of cocoa shell fibers in all possible intervals from 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, or 95 % by weight of the bulk material of the product, to 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, or 100 % by weight of the plant fiber bulk material of the product.

[0013] It is understood that the percentages are stated per bulk material, i.e. the amount of material supplied at the start of the manufacturing process. This stated figure may deviate considerably from the percentages, by weight, per final snuff product, due to processing factors such as heating or dilution due to other additives.

55 **[0014]** Commonly, plant fibers such as maize fibers have been used in tobacco-free snuff products. However, large amounts of maize fibres have drawbacks in the production of non-tobacco snuff.

[0015] Snuff products only containing maize fibers are gluey, reducing their appeal. Therefore, there has been a demand for supplemental fibers, to reduce this glueyness while simultaneously retaining the fluffiness with which the

maize fibers contribute. The change of consistency is of benefit to the consumers seeking a product that more closely resembles moist snuff containing tobacco, commonly called "snus".

[0016] Snuff products containing only maize fibers, oat fibers, tomato fibers, rye fibers, sugar beet fibers, potato fibers, cellulose fibers, or bamboo fibers are inherently light in colour. This creates a need for darker colour, which can be achieved by Colouring agents such as Caramel. Cocoa shell fibers have a distinct advantage in that they are naturally dark in colour.

[0017] Cocoa fibers contribute with colouring of the product, which gives the product a colour similar to ordinary snuff containing tobacco. That colour has a certain appeal to people used to using tobacco, and it is thus a considerable advantage of using the cocoa fibers in the snuff product. This makes additional colouring agents in the product unnecessary, even though caramel may be added if the colour contributed by the cocoa fibers is deemed unsatisfactory. This might be the case when the cocoa fibers exist as a relatively small part of the product, such as 5-10% by weight of the bulk material.

[0018] Fibers that can influence colour and texture/glueyness of moist non-tobacco snuff have long been sought after, due to the characteristics needed. For example, the fibers need to have a low sugar content, to reduce the risk of developing caries. Moreover, they shall be free from unwanted chemical components and be available in large quantities at a reasonable cost. The search for the above has been cumbersome and has required a lot of time.

[0019] Thanks to extensive research, it has now been found that cocoa shell fibers may offset the suboptimal characteristics of maize fibers. A combination of maize fibers, or other suitable plant fibers, and cocoa shell fibers produces a favourable product, compared with a product that predominantly consists of maize fibers, in regard of production matters. Consequently, one embodiment of the current invention pertains to a moist non-tobacco snuff product wherein the plant fiber bulk material as an additional component comprises at least one type of plant fiber chosen from the group consisting of maize fibers, oat fibers, tomato fibers, barley fibers, molasses fibers, rye fibers, sugar beet fibers, buck wheat fibers, potato fibers, cellulose fibers, apple fibers, and bamboo fibers, citrus fibers.

[0020] Naturally, if only 5% of cocoa shell fibers are present in the bulk material, the full potential of the mixture of cocoa fibres with the additional fiber component is not achieved, with regard to glueyness and colour, whereby the product may still exhibit glueyness. Likewise, a product comprising 100 % of the cocoa shell fibers, by weight of bulk material, would result in a considerably compact product, without the fluffiness provided by for example the maize fibers. The grinding of the cocoa fibers may be adjusted to correspond to the portion of cocoa fibers used in the final product. Another way of dealing with high and low proportion of cocoa fiber, is to adjust glycerol level as well as final water content.

[0021] The plant fiber bulk material of the product may also be composed exclusively of cocoa shell fibers. Such a composition would exhibit a compactness, likely due to the high fat and protein contents of the cocoa shell fibers, and possibly due to residual components such as starch. A coarse grinding, however, makes way for use as snuff in a particulate form, for individual compression by hand. The cocoa shell fibers have a reduced glueyness, thus reducing or even eliminating residual glue on the fingers of the person handling the snuff.

[0022] At the same time, the cocoa shell fibers contribute with stickiness, whereby the snuff may be compressed. Consequently, an embodiment of the invention provides the moist non-tobacco snuff product as lozenges, pellets, pods, cakes, tablets, strips, sticks or capsules, or in pouches.

[0023] Another embodiment of the current invention provides the moist non-tobacco snuff product in particulate form.

[0024] According to a second aspect of the current invention, the snuff product according to the invention is provided as a commercial package comprising the moist non-tobacco snuff product according to the invention in a box or bag made out of cellulose and/or metal and/or a polymer. The commercial package may be supplied with a commercial text, such as a company name or an advertising text. The text message may be printed on the material, or alternatively be stamped thereto or comprise a moulded part thereof.

[0025] According to one embodiment, the moist non-tobacco snuff product according to the invention comprises as additional component(s) at least one flavour ingredient chosen from the group consisting of fruits, berries, flowers, herbs, oil of fruits and edible plants.

[0026] The cocoa shell fibers contribute with a fuller taste, compared with a product consisting exclusively of for example maize fibers. Whereas the aroma is influenced also at lower percentages, higher percentages of cocoa fibers are required to influence the taste of the product. Naturally, both the aroma and the taste get more pronounced with a higher content of cocoa fibers. A product containing 100 % cocoa shell fibers by weight of plant fiber bulk material would have an intrinsic taste that would limit the number of flavour ingredients possible.

[0027] More in detail, the ingredients listed below constitute an embodiment of the current invention, whereby the moist non-tobacco snuff product as additional component(s) comprises at least one ingredient chosen from the group consisting of ammonium chloride, liquorice, caffeine, red clover, Echinacea, Green tea extract, Maca, Mate, Matcha, Roiboos, Ginger, Rose hips, white clover, sweet clover, cocoa, ginseng, guarana, arctic root, rosemary, buckthorn, bilberry, cranberry, lingonberry, anise, clove, gum tragacanth, gum arabic, gum acacia, gum karaya, locust bean gum, and xanthan gum. Liquorice may function as an additive and/or flavour.

[0028] Furthermore, addition of cocoa shell fibers to a product containing for example maize fibers, or products only

containing cocoa fibers as bulk material reduces the risk of the composition getting burned to the walls of the production mixers. Maize fibers commonly have a tendency to form such deposits. Moreover, the reduction of stickiness contributed by the cocoa fibers reduces clogging and the need for cleaning the production line, thus reducing interruptions in production. Furthermore, cocoa shell fibers function as a flow-improving agent during production. These are considerable advantages of the moist, non-tobacco snuff products provided by the current invention.

[0029] The moist non-tobacco snuff products are manufactured in accordance with the Gothia Tek® standard (see below), which was originally an exclusively internal quality standard of Swedish Match, and which has since become a general quality standard among several producers of snuff. Albeit the standard was conceived for tobacco-containing Products, it is equally applicable for snuff products devoid of tobacco.

Explanation of expressions used

[0030] As used herein, the expression "moist non-tobacco snuff product" is used as the denomination for the current fiber-based product, either in particulate form or in a pouch. According to Swedish legislation, the product is not considered snuff or "snus". By way of convenience, however, the product is referred to as snuff or "snus" throughout this patent specification.

[0031] As used herein, the expression "sticky tobacco product" is used for a snuff product that is compactable, either manually or mechanically.

[0032] As used herein, "gluey" is a characteristic describing that the product is prone to adhere strongly to surfaces, for example during manufacturing.

[0033] As used herein, "oral placement" is intended to comprise placement buccally, between the lip and gum.

[0034] As used herein, "bulk material" is used as a term for a component part that is essentially inactive, thus minimally contributing to aroma and taste, as long as it does not make up the majority of the product.

[0035] Flavour is a substance used to influence the aroma and/or taste of the non-tobacco snuff product.

[0036] Additive is a substance that contributes to the texture and composition of the non-tobacco snuff product. An additive may in its own right also function as a flavour to the product.

[0037] Particulate is used herein for a particle size of the product which enables the final product to be provided in so-called loose form, whereby a pinch of snuff may be made in individual sizes by the person using the product.

[0038] It is intended throughout the present description that the expression "plant fibers" embraces any plant fiber that may be useful when manufacturing a moist non-tobacco snuff.

[0039] The expression "water content" throughout the present description is

[0040] intended to embrace a water content measured by using Karl Fischer titration which is a known method for the person skilled in the art for measuring water (moisture) content.

Manufacturing Process for tobacco products in general, useful in the current invention

[0041] When making tobacco-containing moist snuff, according to the GothiaTek® standard of Swedish Match, the main ingredients except for tobacco are normally water, salt (table salt; NaCl) and sodium carbonate. Flavours and humectants may also be used. Salt is added mainly for its effect on taste but it also has a preservative action which contributes to improved shelf life of the products. Sodium carbonate is used to give the products their characteristic flavour profile but also stabilizes the pH value. Sodium carbonate will convert to baking soda immediately after it is added. Flavours in general are natural or nature identical compounds that comply with food regulations. Flavours are usually dissolved in alcohol when added. Most of the alcohol evaporates during production. Only trace quantities remain. Humectants may also be added to protect the products from drying out. Two types may be used: glycerol and propylene glycol. Both of them also have a preservative effect since they lower the water activity of the product, thus preventing microorganisms from growing.

[0042] The moist tobacco-containing snuff is then manufactured in two major steps, a) grinding (cutting) and b) processing (see Figure 1).

a) Grinding, sieving

[0043] The tobacco is broken up, dried and fed into a grinder. The ground tobacco is sieved into three particle size fractions, coarse, medium and fine. Pre-set quantities of the three fractions are fed into a mixer silo where the tobacco flour is mixed. After blending, the tobacco flour is fed into a storage silo, from which flour is automatically taken to the processing operation. Each type of tobacco mixture is kept in a separate silo.

b) Processing

[0044] Manufacturing of Swedish moist snuff is for example done in a batch operation. The whole process may be computer controlled and can be run day and night, all week around. To start the process, tobacco flour is automatically weighed and fed into the process blender. Water and salt is added to the batch under stirring. The batch is then heated and kept heated up for a specified time, which varies with brands. Temperature and stirring is for example controlled by a process computer program. This part of the process is a pasteurization process. After pasteurization the moist snuff **[0045]** batch is cooled down and the rest of the ingredients are added. The power of the mixing and the time period for the mixing may be crucial for obtaining an optimal product.

Process for Manufacture according to the Invention of non-tobacco snuff product

[0046] According to a third aspect of the invention, there is provided a manufacturing process for preparing a moist, non-tobacco snuff product comprising cocoa shell fibers and optionally other plant fibers, comprising the steps of

- (a) providing cocoa shell fibers, and optionally at least one additional type of plant fiber, as a plant fiber bulk material,
- (b) optionally grinding or cutting and/or sieving said plant fiber bulk material in (a),
- (c) adding water, one or more humectants, and NaCl under stirring to create a mixture;
- (d) heating the mixture in (c) and keeping it heated to achieve a pasteurization, followed by cooling,
- (e) optionally adding additional ingredients chosen from the group consisting of salts, humectants, dyes, flavours, additives to provide the moist, non-tobacco snuff product,
- (f) optionally packing the product obtained.

[0047] The non-tobacco snuff product is essentially produced in the same manner as tobacco-containing snuff (see above), which is manufactured according to the so-called GothiaTek® standard. Below, the GothiaTek® standard for producing tobacco-containing snuff is described.

[0048] According to an embodiment of the present invention there is provided a method wherein water is added in step (c) of the process, giving a final water content of approximately from 30 to 50% per weight of plant fiber bulk material or more of the plant fiber bulk material, for example approximately from 35 to 41 %, as determined by Karl Fischer titration, to obtain good performance for packing the product in pouches.

[0049] According to another embodiment of the present invention there is provided a method wherein the humectant is glycerol or propylene glycol or a combination thereof, for example glycerol.

[0050] According to an embodiment of the present invention there is provided a method wherein glycerol is added in an amount from approximately 2 to 15 % (based on Formula II as set out below), for example from approximately 8 to 12 %.

[0051] According to an embodiment of the present invention there is provided a method wherein sweetening agents, flavouring agents, colour agents and/or dyes additionally are added in step (e) of the process.

[0052] According to an embodiment of the process according to the present invention there is provided a method wherein NaCl is added from approximately 6 to 16 %, for example 8 to 12%, and glycerol is added from approximately 2 to 15%, for example approximately 5 to 9 % (the figures are all calculated according to formula I and II, respectively).

[0053] According to an embodiment of the process of the present invention there is provided a method wherein the heat treatment in step (d) is applied during approximately 1 to 30 hours, for example approximately 10 h, with mixing each quarter of an hour.

[0054] According to an embodiment of the of the present invention there is provided a method wherein Guarana, rooibos, caffeine, ginseng, matcha, maca, mate and green tea extract is added. Guarana may be added to about 16%, or down to about 4%, depending on desired caffeine level (calculations according to formula I and II as set out below). This interval is desirable from a processing point of view. Furthermore, Guarana may be used both for its caffeine content as well as content of polyphenols, or more specific tannins. This has a health benefit as well as taste enhancement. For an application where health and taste are in focus, the addition may be 16%. Caffeine may be added to about 16% down to 1% depending on desired caffeine level. Caffeine in this interval is desirable from a processing point of view. The effect of caffeine can be regarded as well known. Ginseng may be added with 2%, 5%, 14% or 27% by weight of ginsenosides. Depending on ginseng quality the additions of ginseng differ considerably. All the stated ginsenoside concentrations can be used. Starting from the lowest concentration (2% ginsenosides) from about 3 to about 9% is the desired range (calculated in accordance with formula I and II as set out below). Far higher concentration of ginsenosides, the amount of ginseng may be reduced. The addition of highly concentrated ginseng (27%) may be in the range of from about 0.2 to about 0.8% (calculated in accordance with formula I and II as set out below). Irrespective of the concentration of ginsenosides an addition of ginseng up to about 20% by total weight works from a processing point of view. Effect of ginseng can be regarded as well known, and dose depends on type of application and intended use. Green tea extract in powder or ethanol can be added in levels of from about 0.5 to about 2.5 %, to achieve both taste and preservation

EP 2 150 137 B1

effect (calculations according to formula I and II below). The tea-type plants matcha, rooibos, maca, mate can be used the same way as green tea extract, with the same level of addition to the product.

Formulas for calculating different levels independent of the water content of the snuff

[0055] Formula (I) for calculating the salt addition:

$$\text{salt level} = \frac{\text{Amount of Sodium Chloride [kg]}}{\text{Total dry weight [kg]}} \times 100$$

[%]¹ See note below

[0056] Formula (II) for calculating the glycerol level in the same way as above:

$$\text{glycerol level} = \frac{\text{Amount of glycerol [kg]}}{\text{Total dry weight [kg]}} \times 100$$

[%]¹ See note below

Note: ¹ Total dry weight should be calculated in relation to water content measurement by Karl Fischer analysis

The Gothia Tek® Standard

Product requirements

GothiaTek® limits for undesired components

[0057] Basis for the standard is requirements on maximum allowable limits of certain undesired components in Swedish Snus (snuff). These components can be found in nature and therefore exist in various plant species, e.g. tobacco. Some of these components have by scientists been pointed out as potential health risks if they occur in too high concentrations. The GothiaTek® standard stipulates that the following limits must never be exceeded.

[0058] The concentrations of the undesired components are regularly analysed in all products in quality control programs.

Declaration of contents

[0059] A declaration of contents in accordance with food labelling shall be publicly available for all GothiaTek® products. Substances that are used in the manufacturing of each product shall be listed in declining order of weight. Flavour additives shall be listed as group.

Manufacturing requirements

Raw material requirements

[0060]

- Leaf tobacco for Svenskt Snus (Swedish Snuff) by the GothiaTek® standard shall be selected so that the limits for undesired components in each specific product are satisfied. Leaf tobacco for Swedish Snus (snuff) by GothiaTek® must not contain gene modified tobacco.
- All additives in Swedish Snus (snuff) by GothiaTek® shall be approved food additives, or approved tobacco additives, according to the specific regulations in each country where the products are actively marketed.
- Material which is used in packaging of Swedish Snus (snuff) by GothiaTek® shall be approved for food packaging.

Process requirements

[0061]

- Swedish Snus (snuff) by GothiaTek® shall be heat treated in a way which is effective enough to kill the natural microbial flora of the tobacco to specified residual bacteria limits ("snus (snuff) pasteurization").
- The manufacturing process from the point of charge to discharge of the batch shall be performed in a closed system to prevent the product from being contaminated by external microflora or foreign objects.
- The tobacco shall be comminuted in a controlled process. The process must be able to identify and separate any foreign object.
- Finished Swedish Snus (snuff) by GothiaTek® shall directly after packaging be brought into a cold storage (max. 8 °C).

Hygiene requirements during manufacturing

[0062]

- All exposure of product to an open environment such as filling of product into consumer packages shall be performed in premises which satisfy the sanitation requirements of food manufacturing. These premises shall be controlled with established procedures.
- Process equipment shall be cleaned and disinfected at least once in every production cycle.
- Packaging machinery shall be cleaned and disinfected at least once every 24 hours during production days. Sanitation control shall be made in accordance with specified procedures.
- Control of water activity, bacteria content and shelf life stability shall be performed on finished products according to specified schedules and procedures.
- Purchased packaging material which will have contact with product shall be produced and shipped according to specifications so that contamination of the materials is prevented. Cleanness and sanitation standard of this packaging material shall be controlled according to a specified schedule.
- Results of all controls must meet the tolerance limits that are specified for Swedish Snus (snuff) by GothiaTek®.

[0063] The present invention will now be described with in the accompanying examples. The examples shall merely be seen as an illustration of the spirit and scope of the current invention, and in no way whatsoever as a limitation.

Short description of the drawings

[0064]

Fig. 1 shows the manufacturing process of moist snuff in accordance with the GothiaTek® standard, when making a tobacco-containing product (prior art).
Fig. 2 shows a flow chart for the manufacture of plant fiber-based snuff portions according to the present invention.

Examples

[0065] According to the first aspect of the current invention, there is provided a moist non-tobacco snuff product, wherein the plant fibers are cocoa shell fibers in combination with maize fibers and the fraction distributions are as follows:

The fraction distribution for the maize fibers (obtainable from Norfoods Sweden AB, Box 104, 201 21 Malmo, Sweden) was as follows:

8-20% < 100µm,
100µm<22-34% <160µm,

160 μ m<28-45% <250 μ m, and
16-37% of the fiber blend>250 μ m

[0066] The fraction distribution for the FICAO cocoa fibers (obtainable from Femtorp AB, Travbanegatan 3, 213 77 Malmö, Sweden) was as follows:

80-94% < 100 μ m,
100 μ m<2-10% <160 μ m,
160 μ m<1-10%<250 μ m, and
1-5% of the fiber blend>250 μ m

[0067] The fraction distribution for special quality of Cocoa fibers (as defined below) was as follows:

10-30%<100mm
100mm<2-15%<160mm,
160mm<3-20%<250mm, and
30-60% of the fiber blend>250mm

[0068] The aforementioned special quality of Cocoa fiber is not commercially available, but can be ordered in larger quantities from supplier of FICAO cocoa fiber, or be grinded in pilot scale knife mills. The above fraction distribution can be obtained with standard grids for knife mills.

Example 1

[0069] Moist non-tobacco snuff in accordance with an embodiment of the first aspect of the invention was manufactured in accordance with the GothiaTek® standard as set out above. Said snuff was not filled into pouches. The fibers used were maize and cocoa shell fibers. Coarse maize (SOFABRAN™ F 184-400 (maize)) and Fine maize, (SOFABRAN™ F 184-80 (maize))

Cocoa fiber (FICAO), or special quality of cocoa fiber as described above

[0070] NaCl was added to approximately 6-16 %,for example 8-12%

Glycerol was added to 2-15 %, for example 5-9%. The calculations for NaCl and Glycerol were in accordance with the above-mentioned formulas (I) and (II). The maize fibers were obtained from NORFOODS SWEDEN AB, and the Cocoa fibers FICAO were obtained from Femtorp AB.

[0071] The maize fibers and the cocoa fibers were mixed (as set out below).

[0072] The bulk material proportions were:

Maize fibers 80 % (fraction distribution according to detailed description of the invention *above*)

FICAO cocoa fibers 20 % (fraction distribution according to detailed description of the invention *above*). Here water was added and short time heat treatment (pasteurization) was applied during 10 h with mixing each quarter of an hour. Flavour was added and pH was stabilised by the addition of sodium carbonate. By using this process a well tasting product Was achieved.

Example 2

[0073] Moist snuff in accordance with an embodiment of the first aspect of the invention was manufactured in accordance with the GothiaTek® standard as set out above, and said snuff was not filled into pouches. The fibers used were maize and cocoa fibers.

Coarse maize (SOFABRAN F 184-400 (maize)) and

Fine maize, (SOFABRAN F 184-80 (maize))

Cocoa fiber (FICAO), or special quality of cocoa fiber as described above.

NaCl was added to approximately 6-16 %, for example 8-12%

Glycerol was added to 2-15 %, for example 5-9%.

The calculations for NaCl and Glycerol were in accordance with the above mentioned formulas (I) and (II). The maize fibers were obtained from NORFOODS SWEDEN AB, and the Cocoa fibers FICAO were obtained from Femtorp AB.

[0074] The maize fibers and the cocoa fibers were mixed (as set out below).

[0075] The bulk material proportions were:

Maize fibers 60 % (fraction distribution according to detailed description of the invention *above*)

FICAO cocoa fibers 40 % (fraction distribution according to detailed description of the invention above)
 Here water was added short time heat treatment, pasteurization, was applied during 10 h with mixing each quarter of an hour. Flavour was added and pH was stabilised by the addition of sodium carbonate. By using this process a well tasting product was achieved.

Example 3

[0076] Moist snuff in accordance with an embodiment of the first aspect of the invention was manufactured in accordance with the GothiaTek® standard as set out above, and said snuff was not filled into pouches. The fibers used were maize and cocoa fibers.

Coarse maize (SOFABRAN F 184-400 (maize)) and

Fine maize, (SOFABRAN F 184-80 (maize))

Cocoa fiber (FICAO) or special quality of cocoa fiber as described above.

NaCl was added to approximately 6-16 %, for example 8-12%

Glycerol was added to 2-15 %, for example 5-9%.

The calculations for NaCl and Glycerol were in accordance with the above mentioned formulas (I) and (II). The maize fibers were obtained from NORFOODS SWEDEN AB, and the Cocoa fibers FICAO were obtained from Femtorp AB.

[0077] The maize fibers and the cocoa fibers were mixed (as set out below).

[0078] The bulk material proportions were:

Maize fibers 95 % (fraction distribution according to detailed description of the invention above)

FICAO cocoa fibers 5 % (fraction distribution according to detailed description of the invention above)

Here water was added and short time heat treatment, pasteurization, was applied during 10 h with mixing each quarter of an hour. Flavour was added and pH was stabilised by the addition of sodium carbonate. By using this process a well tasting product was achieved.

Example 4

[0079] Moist snuff in accordance with an embodiment of the first aspect of the invention was manufactured in accordance with the GothiaTek® standard as set out above, and said snuff was not filled into pouches. The only fiber used was cocoa fiber. Cocoa fiber, of special quality as described above.

[0080] Water was added to achieve approximately 30-41 %water content, for example 30-35%. NaCl was added to approximately 6-16 %, for example 8-12%

Glycerol was added to 2-15 %, for example 5-9%.

The calculations for NaCl and Glycerol were in accordance with the above mentioned formulas (I) and (II). The Cocoa fibers FICAO were obtained from Femtorp AB.

[0081] Here glycerol and water in the lower end of the given interval was added, and then short time heat treatment, pasteurization, was applied during 10 h with mixing each quarter of an hour. Flavour was added and pH was stabilised by the addition of sodium carbonate. By using this process a well tasting product was achieved.

This process and choice of fiber provides an advantageous option for presentation of the product in particulate form.

Claims

1. A moist non-tobacco snuff product comprising cocoa shell fibers in an amount of 5-100 % by weight of plant fiber bulk material of the product, and optionally additional component(s) of food grade, provided in a form for oral placement.
2. The moist non-tobacco snuff product according to claim 1, wherein the amount of the cocoa shell fibers is from 5 to 60 % by weight of the plant fiber bulk material of the product.
3. The moist non-tobacco snuff product according to claim 1 or 2, wherein the amount of cocoa shell fibers is from 10 to 50 % by weight of the plant fiber bulk material of the product.
4. The moist non-tobacco snuff product according to any one of claims 1-3, wherein the plant fiber bulk material as an additional component comprises at least one type of plant fiber chosen from the group consisting of maize fibers, oat fibers, tomato fibers, barley fibers, rye fibers, sugar beet fibers, buck wheat fibers, potato fibers, cellulose fibers, apple fibers, bamboo fibers and citrus fibers.

5. The moist non-tobacco snuff product according to any one of claims 1-4, wherein the non-tobacco snuff product is provided as lozenges, pellets, pods, cakes, tablets, strips, sticks or capsules, or in pouches.
- 5 6. The moist non-tobacco snuff product according to any one of claims 1-4, wherein the non-tobacco snuff product is provided in particulate form.
7. The moist non-tobacco snuff product according to any one of claims 1-6, wherein the product as additional component(s) comprises at least one flavour ingredient chosen from the group consisting of fruits, berries, flowers, herbs, oil of fruits and edible plants.
- 10 8. The moist non-tobacco snuff product according to any one of claims 1-7, wherein the product as additional component(s) comprises at least one ingredient chosen from the group consisting of ammonium chloride, liquorice, caffeine, red clover, Echinacea, Green tea extract, Maca, Mate, Matcha, Roiboos, Ginger, Rose hips, white clover, sweet clover, cocoa, ginseng, guarana, arctic root, rosemary, buckthorn, bilberry, cranberry, lingonberry, anise, clove, gum tragacanth, gum arabic, gum acacia, gum karaya, locust bean gum, and xanthan gum.
- 15 9. A commercial package comprising the moist non-tobacco snuff product according to any one of the preceding claims in a box or bag made out of cellulose and/or metal and/or a polymer.
- 20 10. A process for preparing a moist, non-tobacco snuff product according to any of claims 1-9, comprising the steps of
 - (a) providing cocoa shell fibers, and optionally at least one additional type of plant fiber, as a plant fiber bulk material,
 - (b) optionally grinding or cutting and/or sieving said plant fiber bulk material in (a),
 - 25 (c) adding water, one or more humectants, and NaCl under stirring to create a mixture;
 - (d) heating the mixture in (c) and keeping it heated to achieve a pasteurization, followed by cooling,
 - (e) optionally adding additional ingredients chosen from the group consisting of salts, humectants, dyes, flavours, additives to provide the moist, non-tobacco snuff product,
 - 30 (f) optionally packing the product obtained.

Patentansprüche

- 35 1. Feuchtes Nichttabakprodukt zum Schnupfen, das Kakaoschalenfasern in einer Menge von 5-100 Gew.-% des Pflanzenfasermassenmaterials des Produktes und gegebenenfalls (eine) zusätzliche Komponente(n) mit Lebensmittelqualität umfasst, das in einer Form zur oralen Platzierung bereitgestellt wird.
2. Feuchtes Nichttabakprodukt zum Schnupfen gemäß Anspruch 1, wobei die Menge der Kakaoschalenfasern 5 bis 60 Gew.-% des Pflanzenfasermassenmaterials des Produktes ist.
- 40 3. Feuchtes Nichttabakprodukt zum Schnupfen gemäß Anspruch 1 oder 2, wobei die Menge der Kakaoschalenfasern 10 bis 50 Gew.-% des Pflanzenfasermassenmaterials des Produktes ist.
- 45 4. Feuchtes Nichttabakprodukt zum Schnupfen gemäß einem der Ansprüche 1-3, wobei das Pflanzenfasermassenmaterial als zusätzliche Komponente wenigstens einen Typ an Pflanzenfaser, ausgewählt aus der Gruppe, bestehend aus Maisfasern, Haferfasern, Tomatenfasern, Gerstefasern, Roggenfasern, Zuckerrübenfasern, Buchweizenfasern, Kartoffelfasern, Cellulosefasern, Apfelfasern, Bambusfasern und Zitrusfasern, umfasst.
- 50 5. Feuchtes Nichttabakprodukt zum Schnupfen gemäß einem der Ansprüche 1-4, wobei das Nichttabakprodukt zum Schnupfen als Pillen, Pellets, Hülsen, Kuchen, Tabletten, Streifen, Sticks oder Kapseln oder in Beuteln bereitgestellt wird.
6. Feuchtes Nichttabakprodukt zum Schnupfen gemäß einem der Ansprüche 1-4, wobei das Nichttabakprodukt zum Schnupfen in partikulärer Form bereitgestellt wird.
- 55 7. Feuchtes Nichttabakprodukt zum Schnupfen gemäß einem der Ansprüche 1-6, wobei das Produkt als zusätzliche Komponente(n) wenigstens ein Aromaingrediens, ausgewählt aus der Gruppe, bestehend aus Früchten, Beeren, Blüten, Kräutern, Öl von Früchten und essbaren Pflanzen, umfasst.

8. Feuchtes Nichttabakprodukt zum Schnupfen gemäß einem der Ansprüche 1-7, wobei das Produkt als zusätzliche Komponente(n) wenigstens ein Ingrediens, ausgewählt aus der Gruppe, bestehend aus Ammoniumchlorid, Lakritze, Koffein, Rotklee, Echinacea, grünem Teeextrakt, Maca, Mate, Matcha, Roiboos, Ingwer, Hagebutte, Weißklee, Steinklee, Kakao, Ginseng, Guarana, Rosenwurz, Rosmarin, Kreuzdorn, Heidelbeere, Cranberry, Preiselbeere, Anis, Nelke, Traganthgummi, Gummi arabicum, Akaziengummi, Karayagummi, Johannisbrotkerngummi und Xanthangummi, umfasst.
5
9. Handelspackung, die das feuchte Nichttabakprodukt zum Schnupfen gemäß einem der vorangehenden Ansprüche in einem Kasten oder einem Beutel, hergestellt aus Cellulose und/oder Metall und/oder einem Polymer, umfasst.
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10. Verfahren zur Herstellung eines feuchten Nichttabakproduktes zum Schnupfen gemäß einem der Ansprüche 1-9, umfassend die Schritte
 - (a) Bereitstellen von Kakaoschalenfasern und gegebenenfalls wenigstens einem zusätzlichen Typ an Pflanzenfaser als Pflanzenfasermassenmaterial,
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 - (b) gegebenenfalls Zerkleinern oder Schneiden und/oder Sieben des Pflanzenfasermassenmaterials aus (a),
 - (c) Zugeben von Wasser, einem oder mehreren Feuchthaltemitteln und NaCl unter Rühren, um ein Gemisch herzustellen;
 - (d) Erhitzen des Gemisches von (c) und Halten desselben erhitzt, um eine Pasteurisierung zu erreichen, gefolgt von einem Kühlen,
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 - (e) gegebenenfalls Zusetzen zusätzlicher Ingredienzien, ausgewählt aus der Gruppe, bestehend aus Salzen, Feuchthaltemitteln, Farbstoffen, Aromamitteln, Additiven, um das feuchte Nichttabakprodukt zum Schnupfen bereitzustellen,
 - (f) gegebenenfalls Verpacken des erhaltenen Produktes.
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Revendications

1. Produit à priser sans tabac humide comprenant des fibres de coques de cacao en une quantité de 5 à 100 % en poids du matériau en vrac constitué de fibres végétales du produit, et facultativement un (des) composant(s) additionnel(s) de qualité alimentaire, se présentant sous une forme à placer dans la bouche.
30
2. Produit à priser sans tabac humide selon la revendication 1, dans lequel la quantité des fibres de coques de cacao est de 5 à 60 % en poids du matériau en vrac constitué de fibres végétales du produit.
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3. Produit à priser sans tabac humide selon la revendication 1 ou 2, dans lequel la quantité de fibres de coques de cacao est de 10 à 50 % en poids du matériau en vrac constitué de fibres végétales du produit.
4. Produit à priser sans tabac humide selon l'une quelconque des revendications 1 à 3, dans lequel le matériau en vrac constitué de fibres végétales en tant que composant additionnel comprend au moins un type de fibre végétale choisi dans le groupe constitué des fibres de maïs, des fibres d'avoine, des fibres de tomate, des fibres d'orge, des fibres de seigle, des fibres de betterave à sucre, des fibres de sarrasin, des fibres de pomme de terre, des fibres de cellulose, des fibres de pomme, des fibres de bambou et des fibres d'agrumes.
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5. Produit à priser sans tabac humide selon l'une quelconque des revendications 1 à 4, dans lequel le produit à priser sans tabac se présente sous la forme de tablettes, de pellets, de dosettes, de galettes, de comprimés, de lamelles, de bâtons ou de capsules, ou en sachets.
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6. Produit à priser sans tabac humide selon l'une quelconque des revendications 1 à 4, dans lequel le produit à priser sans tabac se présente sous forme particulière.
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7. Produit à priser sans tabac humide selon l'une quelconque des revendications 1 à 6, dans lequel le produit en tant que composant(s) additionnel(s) comprend au moins une substance aromatique choisie dans le groupe constitué des fruits, des baies, des fleurs, des fines herbes, de l'huile de fruits et des plantes comestibles.
55
8. Produit à priser sans tabac humide selon l'une quelconque des revendications 1 à 7, dans lequel le produit en tant que composant(s) additionnel(s) comprend au moins un ingrédient choisi dans le groupe constitué du chlorure d'ammonium, de la réglisse, de la caféine, du trèfle violet, de l'échinacée, de l'extrait de thé vert, du maca, du maté,

EP 2 150 137 B1

du matcha, du rooibos, du gingembre, des fruit du rosier, du trèfle blanc, du mélilot, du cacao, du ginseng, du guarana, de la rhodole, du romarin, du nerprun, de la myrtille, de la canneberge, de l'airelle, de l'anis, du clou de girofle, de la gomme adragante, de la gomme arabique, de la gomme d'acacias, de la gomme de karaya, de la gomme de caroube et de la gomme xanthique.

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9. Lot commercial comprenant le produit à priser sans tabac humide selon l'une quelconque des revendications précédentes dans une boîte ou un sac fabriqué(e) à partir de cellulose et/ou de métal et/ou d'un polymère.

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10. Procédé de préparation d'un produit à priser sans tabac humide selon l'une quelconque des revendications 1 à 9, comprenant les étapes suivantes

(a) apport de fibres de coques de cacao, et facultativement d'au moins un type additionnel de fibre végétale, en tant que matériau en vrac constitué de fibres végétales,

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(b) facultativement broyage ou découpage et/ou tamisage dudit matériau en vrac constitué de fibres végétales de (a),

(c) ajout d'eau, d'un ou plusieurs humectants et de NaCl sous agitation pour créer un mélange ;

(d) chauffage du mélange de (c) et maintien de celui-ci à température pour obtenir une pasteurisation, suivi d'un refroidissement,

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(e) facultativement ajout d'ingrédients additionnels choisis dans le groupe constitué des sels, des humectants, des colorants, des arômes, des additifs pour donner le produit à priser sans tabac humide,

(f) facultativement emballage du produit obtenu.

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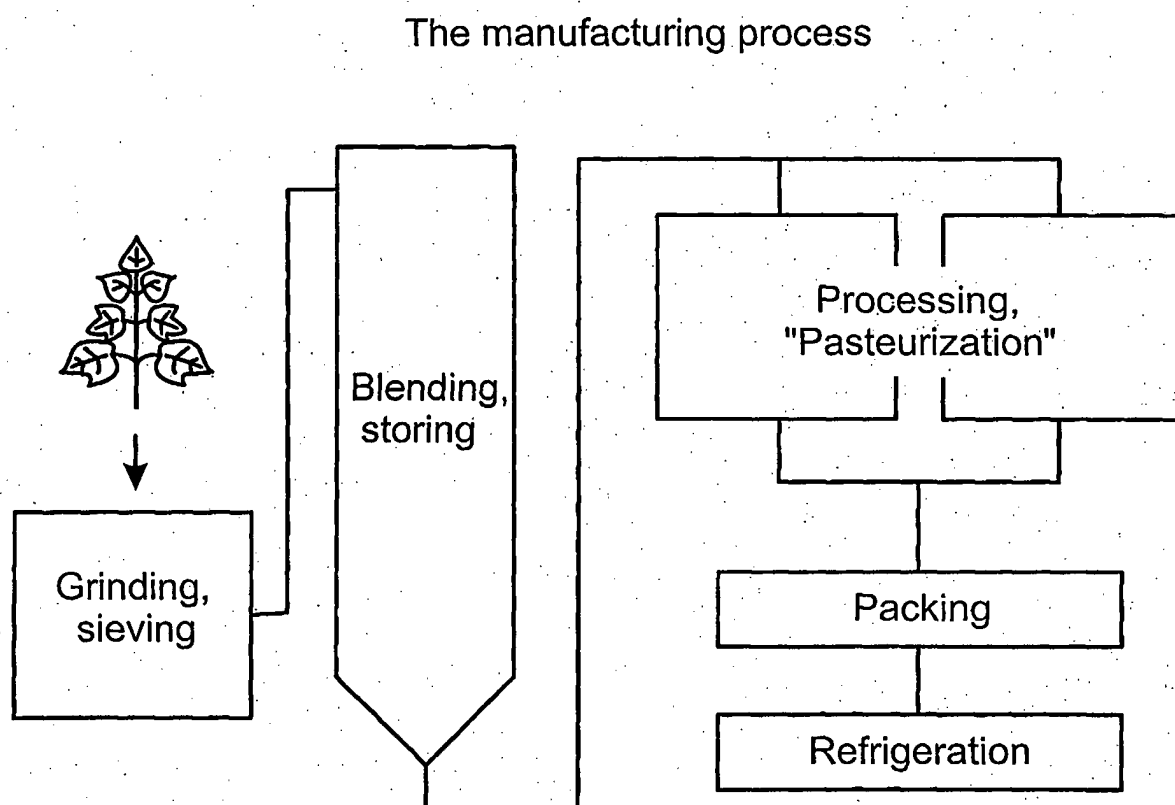


Figure 1

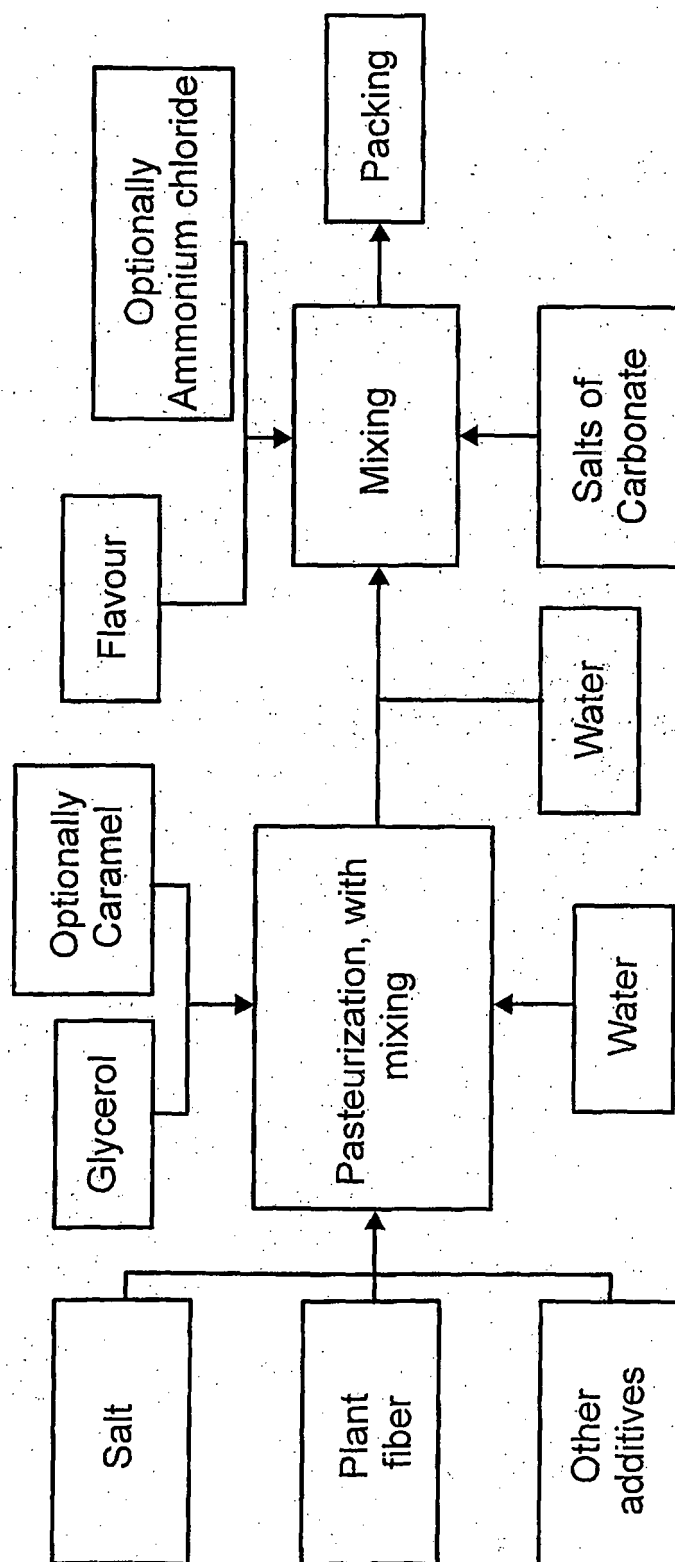


Figure 2

REFERENCES CITED IN THE DESCRIPTION

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