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(54) Title: REDUCED SUGAR COMPOSITION

(57) Abstract: The present invention relates to a sugar paste substrate with a reduced sugar content comprising fondant, fructooligosaccharides (oligofructose or oligofructan) and starch. The paste can be used in standard sugar paste substrate processes, for example to produce printed decorations.



REDUCED SUGAR COMPOSITION

Field of the Invention

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The present invention relates to a sugar paste substrate with a reduced sugar content, which can be used in standard sugar paste substrate processes, for example to produce printed decorations.

10 Background of the Invention

Sugar paste substrates are widely used in the food industry to provide sheets suitable for decoration, for example to apply to cakes and the like.

15 Typically sugar paste substrates are formed into sheets (approximately 0.7 mm to 6.0 mm thick) and the sheets can then be cut, printed on, or punched out to form sugar paste decorations or plaques for the application to other food products such as cakes.

20 The production process requires a sugar paste product to be slightly flexible to allow rolling and processing, not deleterious to print and stable under conditions of use.

Edible ink formulations may be provided to a sugar paste substrate using a "screen printing process" wherein a screen fixture is positioned over a surface of a backing
25 paper and the edible material is manually forced through a screen mesh using a squeegee or similar device. Edible ink formulations are well known in the art and can include a viscosity controller, film forming compound, an emulsifier, a food grade colourant and optionally plasticizers and / or humectants. They may be prepared as aqueous solutions.

30

Present sugar paste substrates include a significant percentage of sugar e.g. 85-90% sugar (78% sucrose, 12% glucose syrup). In view of a desire by some individuals who consume the products, food retailers and many governments there is a drive to reduce the sugar content in food. Reduction of sugar in sugar paste
35 substrates would therefore be advantageous. Current regulations indicate that the

indication "reduced sugar" can only be used where the reduction in content is at least 30% compared to a similar product and the amount of energy of the product is equal to or less than the amount of energy in a similar product.

5 An additional challenge of reducing the sugar percentage in such substrates, whilst retaining suitable processing properties, is that common substitutes for sugar, such as isomalt or other polyols, when used in amounts greater than 10%, must be indicated on the packaging of the product with the warning "excessive consumption may cause laxative effects".

10 Thus, it would be advantageous to provide alternative compositions.

Summary of the Invention

15 The present inventors have determined a sugar paste substrate composition which can be utilised under standard processes to produce printed decorations or be coloured or which is provided in a white form. Further the composition has a reduced sugar content in comparison to typical substrates for use in the production of printed decorations. Suitably the composition comprises no polyols
20 or polyols at less than 10%, suitably less than 5%.

Accordingly a first aspect of the present invention provides a sugar paste substrate composition comprising fondant (comprising sugar and glucose), Fructooligosaccharides (FOS) (oligofructose or oligofructan) and a starch, suitably
25 tapioca starch.

As would be understood in the art, the fondant could be provided in a premixed form or separately as sugar and glucose syrup (dried or liquid). If the fondant is provided to the mixture as separate components of sugar and glucose syrup
30 (dried or liquid) then the same overall mixture and ratio can be provided.

Suitably, the starch in the substrate composition may include starches from any native source, wherein native indicates a starch found in nature. Suitable sources for the starch are cereals, tubers, roots, legumes, fruit, Suitably the starch may be

provided from sources including; corn, pea, potato, sweet potato, sorghum, banana, barley, wheat, rice, sago, amaranth, tapioca, arrowroot, canna and low (suitably less than 10%, suitably less than 5% amylose) and high (at least 40% weight amylose) amylose containing varieties thereof. Suitably the starch may be

5 provided by corn starch, arrow root starch, katakuri starch, potato starch, sago starch, maize (corn) starch, wheat starch, waxy starches, rice starch and derivatives thereof. Suitably the starch may comprise rice starch or tapioca starch.

Suitably starch alternatives may be kuzu powder, sahlab, soy starch, water chestnut flour, almond flour, garbanzo bean flour or coconut flour. Suitably a

10 starch may comprise modified starches, for example distarch phosphate E1412, or acetylated distarch E1422. Suitably a modified starch may be, for example, at

least one of a crosslinked starch, modified with blocking groups to inhibit retrogradation, modified by addition of lipophilic groups, acetylated starches, hydroxytheylated and hydroxypropylated starches, inorganically esterified

15 starches, cationic, anionic and oxidized starches, zwitterionic starch or starches, starch or starches modified by enzymes, and combinations thereof.

Those of skill in the art would understand that the quantity of starch provided, based on the quantity of tapioca starch used in the examples, may require
20 adjustment, for example 2:1 to 2 ratio of tapioca starch to corn starch, or potato starch, or arrowroot.

Suitably the starch may have between 15 to 18% amylose. Suitably the starch granules may be smooth spheres with sizes ranging from about 5 to 25 microns.

25 Suitably the starch may have high water binding capacity. Suitably the starch may have good resistance to shear. Suitably the starch may provide freeze/thaw stability. Suitably the starch may provide a firm texture to the sugar paste composition. Typically it is considered tapioca starch provides such suitable
30 functional aspects and similar functional aspects could be provided by an alternative starch. Suitably the starch may provide a null flavour, and neutral colour to the sugar paste composition. Suitably a neutral colour provides for a white substrate with little discolouration. Suitably the starch may provide a combination of at least two of high water binding capacity, good resistance to

shear, freeze/thaw stability, firm texture, a null flavour, and neutral colour to the sugar paste composition.

Suitably the starch may be maize starch. Suitably the starch may be tapioca starch.

Suitably the FOS may be any suitable oligofructose or oligofructan as known in the art, for example the FOS may be provided as fructose, or Fructopure™ (Crystalline Fructose). Suitably maltinol powder, for example Maltilite P200™, or isomalt may be provided although these are sugar alcohols.

Suitably when mixed with the fondant and FOS, the starch provides a smooth dry paste.

Whilst not wishing to be bound by theory, the inventors consider that FOS is not solely acting as a sweetener in the sugar paste composition, but also provides an advantageous texture when provided with the starch, in particular tapioca starch.

Suitably, the FOS and starch (suitably tapioca starch) combination may be provided at a ratio of about 1:2. The inclusion of the FOS and a starch, suitably a tapioca starch combination allows the amount of sugar and glucose, for example glucose syrup to be reduced in the sugar paste composition.

Suitably the sugar paste composition may comprise sugar, glycerol, glycerin, water and may contain further carbohydrate, viscosity modifiers and thickener materials.

Suitably, the sugar paste composition may comprise 20-30% of a starch, suitably tapioca starch, 10-15% FOS and 50-60% fondant. Suitably the fondant comprises sugar and glucose syrup or dried glucose syrup as would be known in the art, suitably comprising sugar and glucose syrup or dried glucose syrup at a ratio of about 10:1.

As indicated above, in embodiments fondant may be suitably provided as the

separate ingredients sugar and glucose syrup (dried or liquid) to the mixture.

Suitably the composition may further comprise a preservative. For example potassium sorbate may be provided in the composition, suitably at about 0.2%.

5

Suitably the composition may further comprise a humectant. For example glycerine or a sorbitant or other suitable humectant as known in the art may be provided. Suitably a humectant may be provided at about 1 to 8%, suitably 1 to 2% (particularly where the humectant is glycerine), suitably about 1.5%.

10

Suitably the composition may comprise polysaccharide fibres such as inulin, guar gum, etc to improve elasticity and to aid the creation of a smooth appearance of the sugar paste.

15

Suitably the composition may further comprise at least one gum or binder, for example xanthan gum. Xanthan gum has been found to be particularly advantageous for sheeted paste. However, as the skilled person would understand, that other gums or binders may provide suitable functional qualities, for example gums and binders such as guar, acacia, locust bean, tragacanth, CMC, sodium alginate, gelatine or pectin or combinations thereof may be provided. Suitably a gum may be provided at about 1 to 2%, suitably about 1.6%

20

Suitably sugar can be considered the generalized name for sweet, short-chain soluble carbohydrates, many of which are used in food and would be known in the art. Comprising carbon, hydrogen and oxygen, carbohydrate can be derived from a range of sources. Simple monosaccharides can include glucose, fructose, galactose, disaccharides include maltose and lactose and longer chains of monosaccharides are called polysaccharides.

25

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Suitably the composition may comprise flavouring. Suitably the composition may comprise flavouring enhancing agents. Suitably a combination of flavouring and flavouring enhancing agents may be provided.

Flavouring may be natural or artificial flavors, for example extracts derived from

fruits, plants, e.g. vanilla extract, natural oils, or suitable aldehydes or esters as known in the art.

In embodiments the reduced sugar paste can comprise:

5

Fondant (sugar 88.5-91.5%, dried glucose syrup 8.5-11.5%)	50-60%
Tapioca Starch (suitably Creamgel Tapioca Starch)	20-30%
FOS (suitably Actilight 950P FOS)	10-15%
Water	2-6%
Fat (suitably PALMAX SG Fat)	3-6%
Binder or gum (suitably Xanthan Gum)	1-2%
Humectant (suitably Vegetable Glycerine)	1-8%
Preservative (suitably Potassium Sorbate)	0-1%

In embodiments the reduced sugar paste can comprise:

Fondant (sugar 88.5-91.5%, dried glucose syrup 8.5-11.5%)	54.9%
Tapioca Starch (suitably Creamgel Tapioca Starch)	20.9%
FOS (suitably Actilight 950P FOS)	10.4%
Water	5.3%
Fat (suitably PALMAX SG Fat)	5.2%
Binder or gum (suitably Xanthan Gum)	1.6%
Humectant (suitably Vegetable Glycerine)	1.5%
Preservative (suitably Potassium Sorbate)	0.2%

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As will be appreciated by those of skill in the art, Actilight™ is a powder of fructo-oligosaccharides soluble dietary fibres, short-chain (3 to 5 DP).

15

As will be appreciated by those of skill in the art Creamgel™ is native tapioca starch.

Suitably sugar and liquid glucose syrup can be provided to provide the fondant. Alternatively sugar and dry glucose syrup can be provided to provide the fondant. Suitably mixes and ratios to form fondant would be known in the art.

5 Suitably further ingredients or additives may be provided to a composition e.g., colours, flavourings or sweeteners; other gums such as acacia gum, locust bean gum, tragacanth; and / or emulsifiers such as soya lecithin, glycerol monostearate. Suitably, a colouring may be provided to the composition, for example at least one or more of; E100, E101, E102, E104, E110, E120, E122,
10 E123, E124, E127, E129, E131, E132, E133, E140, E141, E142, E150a-d, E151, E153, E155, E160a-e, E161b, E161g, E162, E163, E170, E171, E172, E173, E174, E175, E180. Suitably, fruit extracts and concentrates, vegetable extracts and concentrates, spirulina extract and concentrate or combinations of these may be provided (for example as colouring or flavourings) in the composition..

15 Advantageously, the composition does not require the use of polyols at level that requires warnings to be applied to the food product. Sugar alcohols or polyols may refer to, for example erythritol, galactitol, hydrogenated starch syrups, including maltitol and sorbitol syrups, inositols, isomalt, lactitol, maltitol, mannitol, xylitol and
20 combinations thereof. Advantageously a composition may be provided where the ingredients are considered to be natural allowing the composition to be "clean label".

According to a second aspect of the present invention there is provided a method of making a sugar paste composition comprising the steps:

25 combining a fondant composition with a binder such as gum, providing water and humectant (liquid components), providing a starch, for example tapioca starch and FOS, wherein the fondant composition: starch (tapioca starch): and FOS are provided at about a 5:2:1 ratio providing fat to the mixture.

30 Suitably each of the components may be blended to provide the composition. For example suitably a Z-blade mixer may be used to blend the composition.

Suitably the method of making the sugar paste composition comprises the steps:
35 combining fondant composition with about 1.5% gum, blending with about 5% water,

about 1.6% humectant, further blending a starch, for example tapioca starch and FOS, wherein the fondant composition: starch (suitably tapioca starch) and FOS are provided at about a 5:2:1 ratio (for example a fondant composition at mixture 54% fondant, 20% starch (tapioca starch), 10% FOS) and further blending about 5% fat.

5

Suitably the fondant composition may comprise 8.5% -11.5% glucose syrup / dried glucose with 88.5% to 91.5% sugar. In embodiments this can be blended as an initial step in the method. Alternatively pre-blended fondant may be provided for use in the method.

10

Suitably in the method the composition may comprise

Fondant (sugar 88.5-91.5%, dried glucose syrup 8.5-11.5%)	50-60%
Tapioca Starch (suitably Creamgel Tapioca Starch)	20-30%
FOS (suitably Actilight 950P FOS)	10-15%
Water	2-6%
Fat (suitably PALMAX SG Fat)	3-6%
Binder or gum (suitably Xanthan Gum)	1-2%
Humectant (suitably Vegetable Glycerine)	1-8%
Preservative (suitably Potassium Sorbate)	0-1%

Suitably in the method the composition may comprise

Fondant (sugar 88.5-91.5%, dried glucose syrup 8.5-11.5%)	54.9%
Tapioca Starch (suitably Creamgel Tapioca Starch)	20.9%
FOS (suitably Actilight 950P FOS)	10.4%
Water	5.3%
Fat (suitably PALMAX SG Fat)	5.2%
Binder or gum (suitably Xanthan Gum)	1.6%
Humectant (suitably Vegetable Glycerine)	1.5%
Preservative (suitably Potassium Sorbate)	0.2%

15 When using dried glucose syrup, all dry ingredients may be combined together and mixed. When using liquid glucose syrup, the dry ingredients may be mixed before the addition of glucose syrup.

Suitably the method may further comprise rolling the reduced sugar substrate into a sheet. Suitably the sheet may be 0.7 mm to 6 mm in thickness.

- 5 Suitably the sheet may be an unprinted white sheet, or, if the method includes the addition of colouring to the mixture a coloured sheet.

Suitably the process may comprise the step of forming the substrate into a decoration, for example a rotary moulded decoration.

10

Suitably, an ink may be provided to the substrate. A variety of inks may be used in relation to such substrates and can be considered as cellulose-based or fondant-based.

- 15 Typically cellulose ink may comprise: water 40-90%, humectant 0.1-20%, modified cellulose (E464) 5-10%, ethanol up to 8%, glycerine up to 4%, propylene glycol up to 1%.

- 20 Typically fondant ink may comprise: fondant icing sugar (sugar 89%, glucose syrup 11%) 20-70%, water 10-30%, emulsifier (E322) 3-7%, maize starch up to 25%, ethanol 2-5%, glycerine 0.3-5%, propylene glycol up to 1%.

All percentages are provided as weight %.

- 25 Preferred features and embodiments of each aspect of the invention are as for each of the other aspects mutatis mutandis unless context demands otherwise.

“About” shall generally mean an acceptable degree of error for the quantity measured given the nature or precision of the measurements.

30

Throughout the specification, unless the context demands otherwise, the terms ‘comprise’ or ‘include’, or variations such as ‘comprises’ or ‘comprising’, ‘includes’ or ‘including’ will be understood to imply the includes of a stated integer or group of integers, but not the exclusion of any other integer or group of integers.

Embodiments of the present invention will now be described by way of example only with reference to the accompanying figure in which:

5 Figure 1 provides an exemplary process of the present invention.

Examples

Example 1 – Sugar paste composition

10

A sugar paste composition, with reduced sugar content, was provided comprising

Fondant Icing Sugar (sugar 88.5-91.5%, dried glucose syrup 8.5-11.5%)	100.00	KG	54.9%
Creamgel Tapioca Starch	38.00	KG	20.9%
Actilight 950P FOS	19.00	KG	10.4%
Water	9.60	KG	5.3%
PALMAX SG Fat	9.50	KG	5.2%
Xanthan Gum	3.00	KG	1.6%
Vegetable Glycerine	2.70	KG	1.5%
Potassium Sorbate	350.00	G	0.2%

in which the component parts were combined by

15

1. Combining fondant icing sugar and xanthan gum, suitably using a Z-blade mixer,
2. Dissolving the potassium sorbate in water at 90°C,
3. Adding the glycerine to the sorbate solution and stirring,
4. Adding the glycerine and sorbate solution to the fondant icing sugar and xanthan gum mixture,

20

5. Blending the combined solution and mixture for 3 minutes, suitably using the Z-blade mixer,
6. Combining Actilight FOS and tapioca starch and adding to the blended mixture and solution of step 5,

25

7. Blending the mixture of step 6 for 2 minutes whilst adding fat at 50-60°C,
8. Blending the mixture of step 7 for a further 6 minutes

Suitably, the blended mixture of step 8 is allowed to sit for approximately 48 hours before use. Suitably the blended mixture may be stored bagged for future use.

- 5 This example of the composition can advantageously be used for screen printing and to provide larger flat decorations.

Example 2

- 10 Further compositions of the sugar paste composition were provided as set out below.

	Example 1	Variant 1	Variant 2
Fondant icing (sugar, glucose syrup)	54.90%	56.70%	56.20%
Water	5.27%	4.30%	5.50%
Palm fat	5.22%	2.30%	4.50%
Glycerine	1.48%		2.10%
Sorbitol		4.66%	
Xanthan	1.65%	1.75%	1.50%
LBG		0.09%	
Pot sorbate	0.19%	0.20%	0.20%
Actilight 950P	10.43%	10.00%	10.00%
Tapioca	20.86%	20.00%	20.00%
	100.00%	100.00%	100.00%

- 15 It is considered the variant compositions noted above can be advantageous in end user printing, for example using a modified desktop printing system.

In particular variant 2 is considered to be particularly advantageous for production of more flexible decorations. Such decorations can be placed on a curved surface without cracking or breaking.

20

It is proposed the increased glycerine content of variant 2 provides for decreased moisture loss by the composition. This is considered to be particularly suitable for

smaller decorations where moisture loss would otherwise would lead to drying of the sugar paste.

Example 3 – Use of sugar paste composition

5

The production process for printed decorations includes paste making, sheeting (typically from 0.7 to 6 mm, suitably 2 mm thick), printing, die cutting, removal of excess substrate, and packing.

10

The core production process is as follows

1. Roll prepared sugar paste to an even thickness; 0.7 to 2 mm depending on product (done as a continuous roll, for example with a width typically 320mm)
2. Cut off sheets from roll (e.g., 320x320mm)
3. Create design on surface, e.g., by screen or off-set printing
4. Punch out individual decorations or plaques using a die cutter
5. Remove excess substrate surrounding decoration (referred to as skeletal waste)

15

20

Although the invention has been particularly shown and described with reference to particular examples, it will be understood by those skilled in the art that various changes in the form and details may be made therein without departing from the scope of the present invention.

25

Claims

- 5 1. A sugar paste substrate composition comprising fondant (sugar and glucose), Fructooligosaccharides (FOS) (oligofructose or oligofructan) and starch.
2. A sugar paste substrate composition as claimed in claim 1 wherein the FOS and starch combination are provided at a ratio of about 1:2.
- 10 3. A sugar paste composition as claimed in claim 1 or claim 2 comprising 20-30% by weight starch, 10-15% FOS and 50-60% fondant.
4. A sugar paste composition as claimed in any preceding claim wherein the starch is selected from corn (maize), pea, potato, sweet potato, sorghum,
15 banana, barley, wheat, rice, sago, amaranth, tapioca, arrowroot, canna starch.
5. A sugar paste composition as claimed in any preceding claim wherein the starch is tapioca starch.
20
6. A sugar paste composition as claimed in any preceding claim wherein the fondant comprises sugar and glucose syrup or dried glucose syrup at a ratio of about 10:1.
- 25 7. A sugar paste composition as claimed in any preceding claim wherein the fondant is provided as the separate components sugar and glucose syrup.
8. A sugar paste composition as claimed in any preceding claim wherein the composition further comprises at least one of a humectant and
30 preservative.
9. A sugar past composition as claimed in any preceding claim wherein the composition further comprises at least one gum or binder, for example xanthan gum.

10. A sugar paste composition as claimed in any preceding claims comprising:

Fondant (sugar 88.5-91.5%, dried glucose syrup 8.5-11.5%)	Weight percent 50-60%
Tapioca Starch (suitably Creamgel Tapioca Starch)	20-30%
FOS (suitably Actilight 950P FOS)	10-15%
Water	2-6%
Fat (suitably PALMAX SG Fat)	3-6%
Binder or gum (suitably Xanthan Gum)	1-2%
Humectant (suitably Vegetable Glycerine)	1-8%
Preservative (suitably Potassium Sorbate)	0-1%

5

11. A sugar paste composition as claimed in any preceding claims comprising:

Fondant (sugar 88.5-91.5%, dried glucose syrup 8.5-11.5%)	Weight percent 54.9%
Tapioca Starch (suitably Creamgel Tapioca Starch)	20.9%
FOS (suitably Actilight 950P FOS)	10.4%
Water	5.3%
Fat (suitably PALMAX SG Fat)	5.2%
Binder or gum (suitably Xanthan Gum)	1.6%
Humectant (suitably Vegetable Glycerine)	1.5%
Preservative (suitably Potassium Sorbate)	0.2%

10

12. A method of making a sugar paste composition comprising the steps

- combining fondant: starch and FOS at a ratio 5:2:1 by weight percent.

13. A method of making a sugar paste composition as claimed in claim 12 comprising the steps:

15

combining a fondant composition with a binder,
providing water and optionally a humectant,

providing starch and FOS, wherein the fondant composition: starch and FOS are provided at about a 5:2:1 ratio, providing fat to the mixture.

5 14. A method of making a sugar paste composition as claimed in claim 12 comprising the steps:
combining a fondant composition with FOS and a binder,
providing water and optionally a humectant,
10 providing starch, wherein the fondant composition: starch and FOS are provided at about a 5:2:1 ratio,
providing fat to the mixture.

15 15. A method of making a sugar paste composition as claimed in claim 13 or 14 comprising the steps: combining fondant composition with about 1.5% gum, blending with about 5% water, and about 1.6% humectant, further blending starch and FOS, wherein the fondant composition: starch and FOS are provided at about a 5:2:1 ratio (for example a fondant composition at mixture 54% fondant, 20% starch, 10% FOS) and further blending about 5% fat.

20 16. The method of any one of claims 12 to 15 wherein the starch is selected from from corn (maize), pea, potato, sweet potato, sorghum, banana, barley, wheat, rice, sago, amaranth, tapioca, arrowroot, and canna starch.

25 17. The method of any one of claims 12 to 16 wherein the starch is tapioca starch.

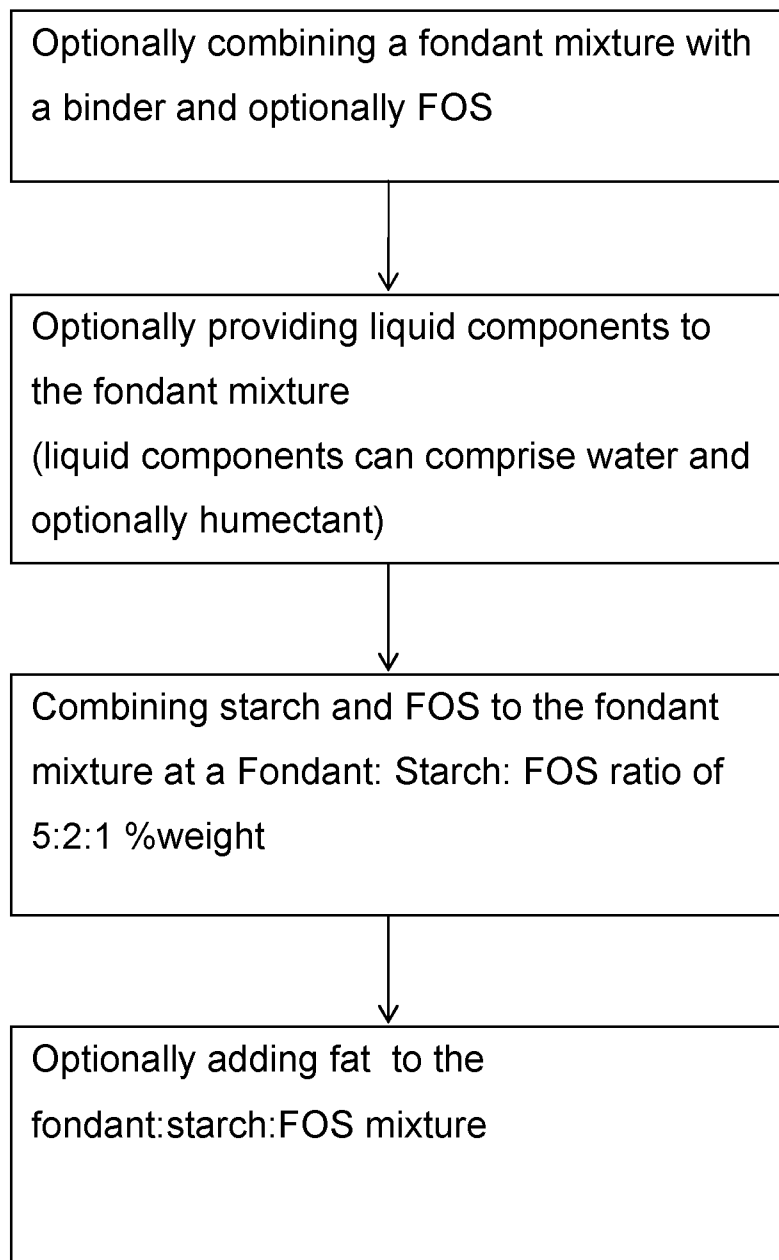
18. A method of making a sugar paste composition as claimed in any one of claims 12 to 17 wherein the composition comprises

Fondant (sugar 88.5-91.5%, dried glucose syrup 8.5-11.5%)	50-60%
Tapioca Starch (suitably Creamgel Tapioca Starch)	20-30%
FOS (suitably Actilight 950P FOS)	10-15%
Water	2-6%
Fat (suitably PALMAX SG Fat)	3-6%
Binder or gum (suitably Xanthan Gum)	1-2%
Humectant (suitably Vegetable Glycerine)	1-8%
Preservative (suitably Potassium Sorbate)	0-1%

19. A method of making a sugar paste composition as claimed in any one of claims 12 to 17 wherein the composition comprises

Fondant (sugar 88.5-91.5%, dried glucose syrup 8.5-11.5%)	54.9%
Tapioca Starch (suitably Creamgel Tapioca Starch)	20.9%
FOS (suitably Actilight 950P FOS)	10.4%
Water	5.3%
Fat (suitably PALMAX SG Fat)	5.2%
Binder or gum (suitably Xanthan Gum)	1.6%
Humectant (suitably Vegetable Glycerine)	1.5%
Preservative (suitably Potassium Sorbate)	0.2%

Figure 1



INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2018/051724

A. CLASSIFICATION OF SUBJECT MATTER
INV. A23G3/34 A23G3/42
ADD.

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)
A23G

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 practicable, search terms used)

EPO-Internal, WPI Data, FSTA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2009/214726 A1 (BALLMAN DARRYL J [US] ET AL) 27 August 2009 (2009-08-27) paragraph [0083]	1-9,12 10,11, 13-19
X A	----- WO 00/53024 A1 (GEN MILLS INC [US]; ZIETLOW PHILIP K [US]; LINGERICH BERNHARD VAN [US]) 14 September 2000 (2000-09-14) claims	1-9,12 10,11, 13-19
X,P A,P	----- WO 2017/122212 A1 (D Y SELIGMAN CONSULTING LTD [IL]) 20 July 2017 (2017-07-20) the whole document	1-9 10-19
Y	----- WO 2009/023997 A1 (FENG ZHIQIANG [CN]) 26 February 2009 (2009-02-26) claims; examples ----- -/-	1,12



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

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INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2018/051724

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3 687 690 A (MOORE CARL O) 29 August 1972 (1972-08-29) claims -----	1,12
Y	WO 94/21826 A1 (SUCROS OY [FI]; YLI KYINY MAURI [FI]; ORAVAINEN JUHA [FI]; TIAINEN ILK) 29 September 1994 (1994-09-29) the whole document -----	1,12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2018/051724

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009214726 A1	27-08-2009	CA 2644308 A1 US 2009214726 A1	26-08-2009 27-08-2009
WO 0053024 A1	14-09-2000	AU 2863200 A CA 2328215 A1 MX PA01009053 A US 6432460 B1 US 2003049360 A1 WO 0053024 A1	28-09-2000 14-09-2000 23-10-2002 13-08-2002 13-03-2003 14-09-2000
WO 2017122212 A1	20-07-2017	CA 3010062 A1 WO 2017122212 A1	20-07-2017 20-07-2017
WO 2009023997 A1	26-02-2009	CN 101112227 A WO 2009023997 A1	30-01-2008 26-02-2009
US 3687690 A	29-08-1972	BE 764996 A CA 949376 A DE 2114628 A1 FR 2087951 A1 GB 1281312 A NL 7103769 A US 3687690 A	30-09-1971 18-06-1974 28-10-1971 31-12-1971 12-07-1972 04-10-1971 29-08-1972
WO 9421826 A1	29-09-1994	AT 197175 T AU 6259494 A DE 69426195 D1 DE 69426195 T2 EP 0690930 A1 FI 931231 A WO 9421826 A1	15-11-2000 11-10-1994 30-11-2000 17-05-2001 10-01-1996 20-09-1994 29-09-1994