PREVENTING STICKINESS OF HIGH-BOILED CONFECTIONS

FIELD OF THE INVENTION

The present invention relates to a coated high-boiled confection with a reduced surface stickiness and a process for its preparation.

BACKGROUND OF THE INVENTION

High-boiled sweets have a hard texture, glassy appearance and are usually produced from a sugar and glucose syrup base with a wide range of additives to give a pleasing taste, e.g. lollipops, rock (lettered), glacier mints, medicated confectionery, etc. A disadvantage of such products is that they are generally highly hygroscopic and readily pick up moisture causing them to stick to the wrappers, to hands, to surfaces, and to one another, all of which is inconvenient to the consumer.

Previous attempts to overcome these problems have involved the use of powdered anti-stick agents such as alpha-lactose, beta-lactose, calcium carbonate, titanium dioxide, talc, etc. coated with solid monoglycerides of a saturated fatty acid having 12 to 18 carbon atoms and mono- or di-acetylation products thereof, e.g. monostearo-monoacetyl glyceride or monolauro-diacetylglyceride in amounts of from 2-5% or more by weight based on the weight of the anti-stick agent. US Patent No.4,208,432 describes such anti-stick agents and states that they can prevent sticking for two weeks at 35°C and at a relative humidity of 80%.

SUMMARY OF THE INVENTION

We have found that by using a coating which comprises a solid fat or fat derivative having a melting point of from 25°C to 65°C, the coating may be used in amounts more than 20 times less than previously used, and may be transparent and tasteless while still providing coated high-boiled confections which have substantially reduced stickiness compared with non-coated high-boiled confections.

Accordingly, the present invention provides a coated high-boiled confection characterised in that the coating comprises a solid fat or fat derivative having a melting point of from 25°C to 65°C.

DETAILED DESCRIPTION OF THE INVENTION

The solid fat or derivative used in the coating may be, for instance, an acetoglyceride, cocoa butter, a wax preparation, or a refined or fractionated fat. The acetoglyceride may be from any suitable source such as soy, but is preferably an oil palm-based acetoglyceride.

The melting point of the fat derivative is preferably from 27.5°C to 45°C and more preferably from 30°C to 40°C.

The amount of coating may be from 0.01 to 0.1% by weight, preferably from 0.015 to 0.08% by weight and more preferably from 0.02 to 0.04% by weight based on the weight of the coated high-boiled confection.

If desired, the coating may also be or may contain an emulsifier, for example a solid monoglyceride of a saturated fatty acid having 12 to 18 carbon atoms such as glyceryl monostearate. This emulsifier may be in combination with a fat in any proportion.

The present invention also provides a method of coating a high-boiled confection which comprises spreading the coating in melted form, or as a powder which is subsequently fused, over the surface of the high-boiled confection and cooling to solidify the coating. The solidification may be by crystallisation.

The coating may conveniently be applied by spraying or by a brush coater. Alternatively, the coating may applied by spraying followed by a brush coater. Once the coating has been applied to the surface of the high-boiled confection, preferably in the form of an even dispersion, further processing may be carried out to give a more homogeneous dispersion and a thinner layer, e.g. by using a step drum with warm air.

The coated high-boiled confections produced according to the present invention are less sticky, absorb less moisture and have less cold flow deformation when compared with uncoated high-boiled confections. Because of the reduced stickiness, they are more easily released from their wrappers. In addition, they have an increased resistance to high temperature and humidity which enables them to be transported greater distances, and/or stored for longer times, e.g. up to about one year under tropical conditions while remaining in good state.The specification of the wrapper may be reduced by virtue of the coating leading to cost savings and, in some cases, the wrapper may be completely dispensed with.

EXAMPLES

The following Examples further illustrate the present invention.

Example 1

Acidified hard-boiled sweets from factory production, of composition: sucrose; glucose syrup; and lactic acid, were coated with 0.04% by weight of palm-based acetoglyceride having a melting point of 35°C. The palm-based acetoglyceride was melted to approximately 50°C and applied to the surface of the hard-boiled sweet by spraying followed by a brush coater to give an even dispersion. Once the coating had been applied to the surface of the high-boiled confection, it was finished using a step drum with warm air to give a more homogeneous dispersion and a thinner layer.

The unwrapped sweets were stored at 20°C and 65% relative humidity for 10 days after which the increase in weight was found to be 2.83%.The sweets started to become very slightly sticky during day 6 and to have a little cold flow. Even after 10 days, the sweets were only a little sticky with only a little cold flow at the bottom.

Comparative Example

Similar high-boiled sweets from the same batch as those used in Example 1 were not coated and were stored at 20°C and 65% relative humidity for 10 days. The increase in weight was found to be 6.62% which is more than twice that of the

coated high-boiled sweets of Example 1. The sweets started to become sticky during the first day and dissolved due to cold flow.

Example 2

Further similar hard-boiled sweets were coated with 0.04% by weight of soya-based acetoglyceride having a melting point of 38°C. The soya-based acetoglyceride was melted to approximately 50°C and applied to the surface of the hard-boiled sweet by spraying followed by a brush coater to give an even dispersion. Once the coating has been applied to the surface of the high-boiled confection, it was finished using a step drum with warm air to give a more homogeneous dispersion and a thinner layer.

The unwrapped sweets were stored at 20°C and 65% relative humidity for 10 days after which the increase in weight was found to be 5.16%. Even after 10 days, the sweets were not sticky but the bottom was starting to dissolve.

Example 3

Hard-boiled sweets were coated with 0.1% by weight of cocoa butter. The cocoa butter was melted to approximately 50°C and applied to the surface of the hard-boiled sweet by spraying followed by a brush coater to give an even dispersion. Once the coating has been applied to the surface of the high-boiled confection, it was finished using a step drum with warm air to give a more homogeneous dispersion and a thinner layer.

The unwrapped sweets were stored at 20°C and 65% relative humidity for 10 days after which the increase in weight was found to be only 0.54%. Even after 10 days, the sweets were not sticky and there was no cold flow.

Example 4

Hard-boiled sweets were coated with 0.04% by weight of a fractionated vegetable fat composition . The fat was melted to approximately 50°C and applied to the surface of the hard-boiled sweet by spraying followed by a brush coater to give an even dispersion. Once the coating has been applied to the surface of the high-

boiled confection, it was finished using a step drum with warm air to give a more homogeneous dispersion and a thinner layer.

The unwrapped sweets were stored at 20°C and 65% relative humidity for 10 days after which the increase in weight was found to be 2.55%. The sweets started to become sticky during the eighth dayand there was a little cold flow. After 10 days, the sweets were a only a little sticky with a little cold flow at the bottom.

CLAIMS

1. A coated high-boiled confection characterised in that the coating comprises a solid fat or fat derivative having a melting point of from 25°C to 65°C.

2. A coated high-boiled confection according to claim 1 wherein the solid fat or fat derivative is an acetoglyceride.

3. A coated high-boiled confection according to claim 1 wherein the solid fat or fat derivative is a palm-based acetoglyceride.

4. A coated high-boiled confection according to claim 1 wherein the solid fat is cocoa butter.

5. A coated high-boiled confection according to claim 1 wherein the amount of coating is from 0.01 to 0.1% by weight based on the weight of the coated high-boiled confection.

6. A coated high-boiled confection according to claim 1 wherein the coating is also or contains an emulsifier.

7. A coated high-boiled confection according to claim 1 wherein the emulsifier is glyceryl monostearate.

8. A method of coating a high-boiled confection which comprises applying the coating in melted form to the surface of the high-boiled confection and cooling to solidify the coating.

9. A method according to claim 8 wherein the coating is applied by spraying or by a brush coater.

10. A method according to claim 8 wherein the coating is applied by spraying followed by a brush coater.