Sliceable dairy product with extended shelf life

Field of the invention

The present invention relates to methods of making sliceable dairy product, and the products obtainable by said methods.

Background of the invention

Sliceable dairy products such as brick cheeses produced in the conventional manner, are often first prepared and then packaged after having been shaped to their final form. This is a complex method from a process viewpoint, and moreover exposes the product to risk of contamination. The contamination can lead to shorter shelf-life and earlier spoilage of the product. Improvements leading to simpler and more efficient production processes are sought after. Further, longer shelf-life is desired because distribution is simpler and more efficient if it does not have to rely on cold chains and/or having to reach the consumer rapidly.

Hence, an improved method of preparing sliceable dairy products, particularly where the products have extended shelf life, would be advantageous.

Furthermore, it is desirable to provide products with "clean label", i.e. having a minimum of additives.

Tofu is a staple ingredient in the diet in many countries, and it would be desirable to produce a milk-based product with the same appeal to these consumers. Furthermore, milk may be considered to have a higher nutritional value as it contains more essential amino acids than tofu.

Summary ~~of the invention~~

Thus, the present ~~invention~~ disclosure ~~provides~~ describes an improved method of producing a sliceable dairy product, where the ingredient mix is packaged while in liquid form and solidifies when heated in the packaging. This method improves handling thereby saving costs.

The present ~~invention~~ disclosure also ~~provides~~ describes a sliceable dairy product with a long shelf-life without the use of preservatives.

Further, the ~~invention provides~~disclosure describes a tofu-like product based on milk. The product has the same or similar consistency, taste and appearance, and is suitable for the same applications as soy-based tofu.

The present inventive method has utility for producing a food in an efficient and safe manner.

Thus, one aspect of the invention relates to a method of producing a sliceable dairy food product, said method comprising the steps of:

a) preparing a liquid ingredient mix which comprises milk and supplemental whey protein,

b) bringing the ingredient mix to a temperature of not more than 70°C;

c) adjusting the pH to a value in the range of from 5.5 to 8.0;

d) optionally adding salt;

e) homogenizing the ingredient mix;

f) filling the ingredient mix into packaging, and

g) heating the ingredient mix in the packaging to a temperature in the range of from 90°C to 155°C,

h) maintaining the ingredient mix at the temperature selected in g) for a time period in the range of from 30 seconds to 9 hours, thereby forming a sliceable dairy food product.

A further aspect of the invention relates to a sliceable dairy food product obtainable by the method.

In another aspect, the present invention refers to a sliceable dairy product as disclosed herein comprising milk and supplemental whey protein, an edible acid, and optionally sodium chloride and/or sodium hydroxide.

Brief description of the figures

Figure 1 shows an overview of one embodiment of the method of invention. The dotted lines indicate where the process can be held over night.

Figure 1A shows an example of Step a) of a method according to the invention (preparing a liquid ingredient mix) wherein the liquid ingredient mix is prepared from liquid milk.

Figure 1B shows an example of the further steps of a method according to the invention.

Figure 2 shows a strain sweep performed to determine the viscoelastic regions of a test product.

Figure 3 shows the Storage Modulus measurements of various test products. See also Table 3.

Figure 4 shows a flow chart overview of one method according to the invention. See also Example 5.

Figure 5 shows a flow chart overview of a further method according to the invention. See also Example 5.

Figure 6 shows a flow chart overview of a further method according to the invention. See also Example 5.

Figure 7 shows an example of a curve from Texture analysis. See also Example 6.

Figure 8 shows the hardness of samples prepared according to Example 5 as measured in Texture analysis.