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FOOD COMPOSITION PREPARED FROM WHEY
AND COMMINUTED SESAME

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 U.S. Cl. 99—28 **13 Claims**

ABSTRACT OF THE DISCLOSURE

A composition in liquid, semi-solid, or solid form is prepared from comminuted sesame and whey, which is useful as a food or as an ingredient of foods, especially as a drink or beverage, and in bread, cakes, candy, ice cream, and other bakery products and confections.

This application is a continuation-in-part of my U.S. application Ser. No. 731,290, filed May 22, 1968, now abandoned.

BACKGROUND

The invention is concerned with the preparation of a food composition from sesame.

Sesame is primarily used in the form of its dehulled seed as a topping for rolls, bread, and bakery products. It has also been suggested for use in the form of a ground paste or butter as a base for dips and spreads. Since sesame is high in methionine, one of the highly nutritional amino acids, it would be desirable to make it available in new and improved compositions which are both highly nutritional and palatable.

OBJECTS

An object of the present invention is to provide a new and improved food composition containing sesame.

Another object is to provide a new and improved food product containing sesame which is highly palatable and nutritious.

An additional object is to provide a new and improved food product in powder form containing sesame.

A further object is to provide a food composition, which is prepared from ground dehulled sesame seed, sesame seed cake and/or extracted sesame seed cake and is useful as a food or as an ingredient of foods, especially in a drink or beverage or in bread, cakes, candy, ice cream and other bakery products and confections. Other objects will appear hereinafter.

BRIEF SUMMARY OF THE INVENTION

In accordance with the invention it has been found that a new and useful food composition can be prepared by mixing comminuted sesame and whey. The composition can be used as a liquid, or a semi-solid, with or without added flavoring ingredients, but is preferably converted to a powder, for example, by spray drying or drum drying.

DETAILED DESCRIPTION OF THE INVENTION

The term "comminuted sesame" as used herein is intended to include and cover ground dehulled whole sesame seed, sesame seed cake containing 10% to 20% oil (i.e., the cake which remains after all except 10-20% of the sesame oil has been expelled) and extracted sesame seed cake containing less than 10% sesame oil, usually around 0.5% sesame oil (i.e., the cake which remains after the sesame oil has been solvent extracted). Mixtures of any two or more types of comminuted sesame are also contemplated.

The term "whey" ordinarily means the liquid remaining after the removal of casein and fat from milk. Whey can be made from skim milk, whole milk or buttermilk. It is usually obtained as a by-product of cheese making processes. Usually, whey contains about 94% by weight water and about 6% by weight solids. The solids are primarily milk sugars, minerals and water soluble proteins. The term "whey" as used herein includes ordinary whey; delactosed whey (which is higher in protein); demineralized, delactosed whey; and demineralized whey as well as mixtures of two or more of said forms of whey.

When a dried composition is prepared in accordance with the invention, a liquid comminuted sesame-whey mixture is first heated. The heating is believed to produce some interaction between the components of the ingredients. A preferred method is to forewarm the mixture at 145-205° F. for thirty minutes or at a higher temperature for a shorter period of time. The mixture is then evaporated under 18-27 inches of mercury at 105-165° F. to a concentration of 30-55% by weight solids and the concentrate spray dried. The ingredients could also be dry blended. However, it is more difficult to produce intimate association and less interaction of the components is likely.

The dried compositions can be used as such or they can be blended with other ingredients, e.g., flavoring substances and/or taste intensifiers, and/or agents to increase water wettability, and/or suspending agents, e.g., salt, vanilla, sugar, cocoa, lemon, lime, orange, sodium glutamate, lecithin and/or carrageenin. Edible flavoring substances might constitute 0 to 50% by weight of the total solids; edible taste intensifiers 0 to 1%; edible water wetting agents 0 to 2%; and edible suspending agents 0 to 3%.

In order to make a drink or beverage the dried compositions are reconstituted with water in sufficient amount to give a final product containing about 12% to about 20% solids, preferably 15% to 20% solids.

The compositions of the invention comprise the following ingredients and proportions:

Ingredients	Parts by weight	
	Range	Preferred
Comminuted sesame	1-15	8
Whey solids	4-10	6

The weight ratio of comminuted sesame to whey solids is usually within the range of 2:1 to 1:2. Water can be present in various amounts depending upon the desired consistency of the product. Thus, a liquid product might contain 80-99% by weight water, a semi-solid product might contain 40-60% by weight water and a powdered product would contain less than 15% by weight water. Usually, a dried or powdered product will contain some moisture because it is not practical to remove all of the water and even when a product is thoroughly dried some atmospheric absorption of moisture will occur unless the product is immediately packaged in containers that are sealed from the atmosphere.

Sesame seed is a high fat and high protein seed which is very useful for nutritive purposes. It may be moisture-free or the moisture content can be higher, for example, up to 8% by weight. Wet seed from the dehulling operation can be used directly when the seed is dehulled by wet processing methods. Dry seed can also be used. The sesame can be ground before mixing it with the whey or after mixing it with the whey.

Cheese whey from Cheddar, Swiss or Italian cheese making usually has a pH around 5.8 to 6.2. Whey from cottage cheese making has a substantially lower pH. Any of these forms of whey can be used.