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COCOA BEVERAGE POWDER AND METHOD OF MAKING THE SAME

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This invention relates to a beverage powder and the process of making it. The invention is particularly useful in making an improved cocoa and will be illustrated in connection therewith.

Briefly stated, the invention comprises a composite beverage powder with a granulated sugar or malted milk base, lecithin or other edible water swellable bonding material adhered in small proportion to the base, and cocoa malted milk, or like food powder adhered to the said bonding material. In the preferred embodiment the invention comprises pulverized sugar interspersed between the particles of the final powder.

The invention comprises also the herein described process of making the composite powder.

An example of the granulated sugar that we use as the base material is bakers' special sugar, either beet or cane. While granulated dextrose or lactose may be used for some purposes, they give no advantage that offsets the disadvantage unless in special formulations to meet particular needs.

The lecithin used to coat the granules of the base material and bond lightly the said material and later other powder applied thereover is any commercial grade. In fact, the commercial, less refined grades of lecithin seem to work somewhat better in our composition than the more highly purified lecithin, this advantage being considered to be due in part to the wider range of softening temperature of the commercial material and, therefore, a wider range of temperature over which the lecithin is tacky or sticky during the preparation of the beverage powder.

As the food powder to be added, we use ordinarily a fatty nutrient such as cocoa powder, either Dutch or natural process with fat content about 8%-25%. In place of the cocoa powder we may use other powdered nutrients that are commonly found in beverages, as, for example, malted milk, and malted milk mixtures, and chocolate flavored mixtures. Any of the powders may be mixed with vitamins, minerals, and the like that are conventionally used in making vitamin and mineral fortified beverages.

The pulverized material which is interspersed between the composite particles, such as those of sugar, lecithin, and cocoa, is a sugar or a mixture containing sugar. Examples that meet these requirements and that are used are the pulverized sugars, pulverized sucrose being the one ordinarily selected, although lactose, dextrose, maltose, or other like soluble sugar in powder form may be substituted if desired for special effects.

Additional flavor materials may be incorporated to suit the taste. While vanilla is the flavor selected for general use, any other common food flavor may be substituted in place of the vanilla, in conventional proportion and at the stage illustrated herein by the use of the vanilla flavoring material, suitably in admixture with the cocoa powder or the alternative therefor.

The granulated sugar base material is used ordinarily in excess of the proportion of any other component present. The said nutrient powder, such as the cocoa disposed in contact with the lecithin and the pulverized sugar, is in excess of the amount of lecithin and of any flavoring material added. Suitable proportions, for 100 parts of the said base material, are 0.5-4 of lecithin or

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other bonding material of kind described, 8-60 of the said nutrient such as cocoa, 0.5-2 of the flavoring agent such as vanilla (vanillin), and 20-80 of the pulverized sugar or other admixture between the said composite particles, i.e., at least 5 times the lecithin content.

The conditions of compounding are important. The sugar is heated and maintained during the compositing at an elevated temperature above the melting point of the lecithin and below the melting point of the sugar. The lecithin, illustrating the bonding material, is applied in molten condition to the granules of the heated sugar, the term molten including heat softened. Suitable temperatures for the heating of the sugar to adhere the lecithin are within the range about 130°-190° F. Onto the sugar so heated we then apply, slowly and with mixing, the molten lecithin, the rate of addition and the stirring being controlled so as to obtain good distribution of the lecithin in the mass of heated sugar. The stirring of the mass is continued until the lecithin is adhered to substantially all of the particles of the granulated sugar.

While the lecithin so applied is still in molten or tacky condition, the cocoa or other nutrient powder is introduced and the whole stirred until the said powder is uniformly distributed and, in fact, largely adhered by the lecithin to the base material.

If additional flavoring material, such as vanilla powder or a mixture thereof with usual modifying agent, is to be used, it is suitably introduced in premixed condition with the cocoa or the like.

There is then applied the pulverized sugar. This is interspersed between the granules of the composited particles made as described and adhered to the lecithin or other nutrient powder. The resulting product has a greater bulk density than one in which the granules of sugar are not adhered to lecithin.

The product so made shows coherence between the particles and is not free flowing. Yet the product does not cake into hard lumps except when malted milk is used as a principal ingredient. The product is dispersible with agitation in water or milk, to provide an improved chocolate beverage.

The invention will be further illustrated by description in connection with the following specific examples of the practice of it. In these examples and elsewhere herein proportions are expressed as parts by weight unless specifically stated to the contrary.

Example 1

Formula:	Lbs.
Sucrose, as fine granular sugar	53
Lecithin, "Yelkin BTS"	1.5
Cocoa, Dutch process, 10%-12% fat	18.5
Vanilla flavoring (vanillin powder)	1
Sucrose, as pulverized sugar	26

The fine granular sucrose, otherwise known as coating sugar, is heated to and maintained at 150° F. in a steam jacketed candy kettle provided with an agitator and using low pressure steam as the heating medium. The lecithin is heated separately to 150° F. and agitated, to provide uniform heating and to prevent scorching and charring. The heated sugar is then placed in a ribbon blender type mixer, such as a Day Mixer. The mixer is started and the heated lecithin is poured or sprayed slowly and uniformly onto the sugar, this requiring about 1 minute. Mixing is continued for 4 minutes or until the lecithin is uniformly dispersed over substantially all the particles of the sugar. Next, the cocoa and flavoring are added and mixed for 4 minutes or until uniformly mixed with the sugar at a temperature at which the lecithin coating is still tacky, as at 135°-160° F. The pulverized sucrose (confectioners' or powdered sugar) at room temperature is then added and mixing is continued for 10