Patented Oct. 21, 1941 2,259,767

UNITED STATES PATENT OFFICE

2,259,767

FOOD PRODUCT

Philip Bliss Myers, Scarsdale, N. Y., assignor to Sardik Incorporated, Jersey City, N. J., a corporation of Delaware

No Drawing. Application July 15, 1939, Serial No. 284,703

6 Claims. (Cl. 99—100)

This invention relates to food products and their preparation and an object is to provide conventional food-materials with certain novel properties and characteristics which enhance their food value.

A further object is to increase the ease with which the vitamin content of food-materials can be assimilated.

A still further object is to provide food products having bacteriacidal and therapeutic properties.

In my Patent No. 2,155,361, I have described the therapeutic properties of pectin compounds in which certain metals are present in a definite range of percentages, together with some of the advantages resulting from the use of such compounds. The present application describes the preparation of food products and the treatment thereof in order to produce in the product itself the desired metal-pectin compound.

The present process comprises the treatment of fruits and vegetables having an appreciable quantity of pectin present. Such materials as, for example, cranberries, apples, gooseberries, strawberries, currants, raspberries, quince, banana, carrots, sugar beets and the like normally contain sufficient pectin, usually present in the form of protopectin, to be adapted to the present invention without the necessity of incorporating therein pectin from an extraneous source.

When the pectin is present in the fresh material in the form of protopectin it is necessary to liberate it for the reaction hereafter described. This may be accomplished by cooking or heating the material until soft and mushy at the end of which time the pectin will be liberated from the protopectin of the original material and ready for the following reaction.

A nickel salt, preferably a soluble salt such as nickel sulphate or nickel ammonium sulphate, is incorporated in the fruit pulp to react with the pectin in the manner set forth in my aforesaid patent to form a nickel-pectin compound termed nickel-pectinate.

As pointed out in my said patent, the amount of nickel combined with the pectin must be less than enough to coagulate the pectin and more than 0.1% by weight of the nickel and pectin combined. Preferably I employ sufficient nickel salt to provide about 0.3% nickel in the nickel-pectin compound.

In place of a nickel salt the food-material can be treated with any of the other metallic salts described in my patent to produce therein a metallic pectinate containing one or more of such metals as lead, copper, manganese, cobalt, zinc or silver. For example, after the pulp has been treated in the above described manner to provide it with the necessary pectin content, lead acetate may be added thereto in the proper proportions to form lead pectinate; copper sulphate, or copper acetate, or copper chloride may be added to form copper pectinate; manganese sulphate may be added to form manganese pectinate; cobalt sulphate may be added to form cobalt pectinate; zinc acetate may be added to form zinc pectinate, or silver nitrate added to form silver pectinate.

As with nickel so with the other metals, the amount thereof combined with the pectin must be less than enough to coagulate pectin and more than 0.1% by weight of the metal and pectin combined. Usually about 0.3% metal will be suitable. Being in colloidal form, the metal pectinate is harmless to the human system.

When a food product is prepared in accordance with the present invention, it will be found that certain of the vitamins present are more easily assimilated than is ordinarily the case. The effect of the different metallic pectinates in rendering vitamins more readily assimilated by the human system will vary with the different metals, but it will be found, for example, that the presence of nickel pectinate aids the assimilation of vitamins A, B_1 and C, while parallel results are obtained by the other metallic pectinates herein described, when incorporated in food products in accordance with the present invention. In addition, the product has the bacteriacidal and therapeutic values of the metallic pectinates which are described in my aforesaid patent.

The product of this invention can be canned in the form of a sauce or pulp, it can be used in any conventional manner as, for example, in making jelly or marmalade, or it may be put into dry form for safe storage and transportation by any suitable drying operation, such for example as that set forth in Sartakoff Patent No. 1,908,489. It will be apparent that the invention can be variously modified and adapted within the scope of the appended claims.

I claim:

1. The method of treating food-material which consists in heating fresh material containing available pectin to free the pectin content thereof, converting the pectin into the form of a metallic pectinate by reacting therewith the salt of a metal taken from the group consisting of nickel, lead, copper, manganese, cobalt, zinc and silver to form a pectinate in

which the proportion of metal is greater than 0.1% of the pectin and metal combined but not great enough to destroy the colloidal and dispersible characteristics of the pectin.

2. The method of treating food-material which consists in heating fresh material containing avaible pectin to free the pectin content thereof, converting the pectin into the form of a metallic pectinate by reacting therewith the salt of a metal taken from the group consisting of nickel, lead, copper, manganese, cobalt, zinc and silver to form a pectinate in which the proportion of metal is greater than 0.1% of the pectin and metal combined but not great enough to destroy the colloidal and dispersible characteristics of the pectin, and then drying said material.

3. The method of treating food-material which consists in treating the pulp of the fresh material to free the pectin content thereof, and converting the pectin into nickel pectinate by reacting therewith a salt of nickel to form a nickel pectinate in which the proportion of nickel is between approximately 0.1% to 1.0% of the pectin and nickel combined.

4. A food product comprising a fruit or vegetable having incorporated therein a metallic pectinate in which a metal taken from the group consisting of nickel, lead, copper, manganese, cobalt, zinc and silver is present in a proportion greater than 0.1 of the pectin and metal combined, but not great enough to destroy the colloidal and dispersible characteristics of the pectin.

5. A food product comprising a fruit or vegetable pulp having incorporated therein a nickel pectinate in which the nickel is present in approximately 0.1% to 1.0% of the pectin and nickel combined.

6. The method of rendering more readily assimilable a vitamin of the group consisting of vitamins A, B_1 and C, contained in a food material, which consists in treating the food material with a sufficient quantity of a nickel salt to produce therein nickel pectinate in which the nickel is present in a proportion greater than 0.1% of the pectin and nickel combined, but not great enough to destroy the cololidal and dispersible characteristics of the pectin.

PHILIP BLISS MYERS.

CERTIFICATE OF CORRECTION.

Patent No. 2,259,767. October 21, 1941.

PHILIP BLISS MYERS.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, second column, line 6, claim 4, for "0.1" read --0.1%--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of December, A. D. 1941.

(Seal)

Henry Van Arsdale,
Acting Commissioner of Patents.