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(54) **Kappaphycus Alvarezii Dietary Fiber Solid Beverage.**

(57) The invention discloses a Kappaphycus alvarezii dietary fiber solid beverage, a preparation method thereof, including that following step: (1) the main material, the auxiliary materials are mixed, the main materials includes Kappaphycus alvarezii soluble dietary fiber 40-55%, xylitol 10-15%, citric acid 0.2-0.5%, VC 0.2-0.5%, calcium lactate 0.2-0.5%, ferrous gluconate 0.05-0.1% and CMC; uniformly mixing the main material, the auxiliary material with a mixer; (2) granulating: pulverizing the mixture obtained in the step (1), sieving with an 80-mesh sieve, adding edible alcohol with a concentration of 50-75%, a mass of 20-30% of the mixture, mixing uniformly; then granulating with a granulator; (3) drying: drying the wet granules made in step (2) at 60-70°C until the moisture content is less than or equal to 7%; (4) packaging: the dried Kappaphycus alvarezii dietary fiber solid beverage is packaged in food-grade moisture-proof packaging bags according to the specification of 5-10 g per small bag.

DESCRIPTION

Kappaphycus Alvarezii Dietary Fiber Solid Beverage

TECHNICAL FIELD

The invention relates to a health beverage food, in particular to a *Kappaphycus alvarezii* dietary fiber solid beverage. The invention also relates to a preparation method of the beverage, belonging to the technical field of health beverage processing.

BACKGROUND

Dietary fiber, as a kind of food base material, has many physiological functions on human body, such as promoting intestinal peristalsis, preventing constipation, assisting in lowering blood fat and blood sugar. However, the existing dietary fiber has some problems, such as low soluble dietary fiber content, poor taste and insignificant functional activity, which can not meet the health needs of consumers. *Kappaphycus alvarezii* is a tropical red algae marine plant, which is rich in soluble dietary fiber and mineral elements, and is a good raw material for preparing highly active dietary fiber. In the previous research, the inventor has made a detailed study on the extraction process and functional activity of *Kappaphycus alvarezii* dietary fiber, but has not made any research on the product development of *Kappaphycus alvarezii* dietary fiber food. Therefore, it is an important demand to develop a *Kappaphycus alvarezii* dietary fiber solid beverage with specialized and refined ratio.

SUMMARY

The invention aims to provide a *Kappaphycus alvarezii* dietary fiber solid beverage;

Another object of the invention is to provide a preparation method of the solid beverage, so as to prepare healthy food with low heat energy and high dietary fiber.

The first object of the invention can be achieved by the following technical measures: a *Kappaphycus alvarezii* dietary fiber solid beverage includes the following components in percentage by mass: *Kappaphycus alvarezii* soluble dietary fiber powder 40-55%; 10-15% of xylitol; 0.2-0.5% citric acid; V_C 0.2-0.5%; 0.2-0.5% of calcium lactate, 0.05-0.1% of ferrous gluconate, 0.05-0.15% of CMC-Na and the balance of maltodextrin.

Another object of the invention is realized by the following technology: a preparation method of *Kappaphycus alvarezii* dietary fiber solid beverage, including the following steps: uniformly mixing the raw materials with a mixer, crushing, sieving with an 80-mesh sieve, adding 20-30% edible alcohol with a concentration of 50-75% by mass of the mixture, and then mixing uniformly; the mixture is made into wet granules by a granulator, dried and packaged into bags.

The drying process of the invention is as follows: the prepared wet particles are spread in an enamel tray and dried at 60-70°C until the moisture content is below 7%.

Preferably, the packaging process of the invention is as follows: packaging with food-grade moisture-proof packaging bags according to the specification of 5-10g per bags; and then packaging the small bags into large packages according to a certain number.

Further, before adding food-grade alcohol, the raw materials of each component are mixed, crushed and sieved by an 80-mesh sieve.

The invention has the following obvious advantages.

(1) The invention selects soluble dietary fiber of *Kappaphycus alvarezii* as the main material, and adds sweeteners, acidulants and nutritional fortifiers to prepare a health food with low calorie and high dietary fiber for supplementing calcium, iron, zinc and vitamins, which is convenient to eat and can effectively apply the dietary fiber of *Kappaphycus alvarezii*.

(2) The invention selects *Kappaphycus alvarezii* soluble dietary fiber as the main material, so that the solid beverage has good solubility, uniform texture, high swelling power and water-holding activity index, and remarkable functional effect.

(3) The *Kappaphycus alvarezii* dietary fiber solid beverage of the invention is milky white in color, uniform and granular in shape, loose, free from caking, good in fluidity, sweet and slightly sour in taste, and free from bad odor; after mixing, the dissolution rate is fast, and there is no obvious delamination and sediment after standing for 2 min, which has good sensory quality.

(4) The method has the characteristics of strong process operability, low cost and easy realization of industrial production, and provides a prospect for the development and application of seaweed health food.

DESCRIPTION OF THE INVENTION

Embodiment 1

The raw and auxiliary materials are weighed according to the following mass: 450 g of *Kappaphycus alvarezii* soluble dietary fiber, 100 g of xylitol, 3.0 g of citric acid, 2.0 g of V_C, 2.0g of calcium lactate, 0.5 g of ferrous gluconate, 0.5g of CMC-Na and 442 g of maltodextrin.

The preparation method comprises the following steps: mixing and pulverizing the weighed raw materials, sieving with an 80-mesh sieve, and uniformly mixing with a mixer; weigh 200 g of edible alcohol with 60% concentration and mix well with the mixture; granulating the mixture with a granulator; frying the granules at 60°C until the moisture content is less than or equal to 7%; then it is packaged into a small bag of 10 g size with a moisture-proof packaging bag.

Embodiment 2

Raw and auxiliary materials are weighed according to the following mass: *Kappaphycus alvarezii* soluble dietary fiber 5.5 kg, xylitol 1.2 kg, citric acid 50 g, V_C 25 g, calcium lactate 30 g, ferrous gluconate 10 g, CMC-Na 10 g and maltodextrin 3.175 kg.

The preparation method comprises the following steps: mixing and pulverizing the weighed raw materials, sieving with an 80-mesh sieve, and uniformly mixing with a mixer; weigh 2.5 kg of 65% food-grade alcohol and mix well with the mixture; granulating the mixture with a granulator; drying the wet granules at 65°C until the moisture content is less than or equal to 7%; then, it is packaged into 7 g small bags with moisture-proof packaging bags.

CLAIMS

1. A *Kappaphycus alvarezii* dietary fiber solid beverage, characterized by comprising the following components in percentage by mass: *Kappaphycus alvarezii* soluble dietary fiber 40-55%; 10-15% of xylitol; 0.2-0.5% citric acid; V_C 0.2-0.5%; 0.2-0.5% of calcium lactate, 0.05-0.15% of ferrous gluconate, 0.05-0.15% of CMC-Na and the balance of maltodextrin.

2. A preparation method of the *Kappaphycus alvarezii* dietary fiber solid beverage according to claim 1, characterized in that: the raw materials of each component are evenly mixed by a mixer, and edible alcohol with the mass of 20-30% and the concentration of 50-75% of the mixture is added, and then mixed evenly; then the wet mixture is made into wet granules by a granulator, dried and packaged into bags.

3. The preparation method according to claim 2, characterized in that the drying process is: drying the prepared wet granules at 60-70°C until the moisture content is ≤7%.

4. The preparation method according to claim 2, characterized in that the packaging process comprises the following steps: packaging with food-grade moisture-proof packaging bags according to the specification of 5-10 g per small bag; and then packaging the small bags into large packages according to a certain number.

5. The preparation method according to claim 2, characterized in that before adding edible alcohol, the raw materials of each component are mixed, crushed and sieved with 80 meshes.

PATENTANSPRÜCHE

1. Ein festes Diätfasergetränks aus Kappaphycus, dadurch gekennzeichnet, dass es die folgenden Komponenten in Massenprozent umfasst: 40 - 55% lösliche Diätfaser aus Kappaphycus; 10 - 15% Xylit; 0,2 - 0,5% Zitronensäure; 0,2 - 0,5% VC; 0,2 - 0,5% Calciumlactat, 0,05 - 0,15% Eisengluconat, 0,05 - 0,15% CMC-Na und der Rest ist Maltodextrin.

2. Ein Herstellungsverfahren des festen Diätfasergetränks aus Kappaphycus nach Anspruch 1, dadurch gekennzeichnet, umfassend Mischen der Rohstoffe jeder Komponente gleichmäßig mit einem Mischer, Zugabe der Mischung mit einer Masse von 20 - 30% und des Speisealkohols mit einer Konzentration von 50 - 75% und dann Mischen gleichmäßig; Verarbeitung der nassen Mischung mit einem Granulator zu nassen Granulaten, Verpacken in Beutel nach dem Trocknen.

3. Herstellungsverfahren nach Anspruch 2, dadurch gekennzeichnet, dass der Trocknungsprozess darin besteht, dass die vorbereiteten nassen Granulate bei 60 - 70°C getrocknet werden, bis der Feuchtigkeitsgehalt ≤ 7% ist.

4. Herstellungsverfahren nach Anspruch 2, dadurch gekennzeichnet, dass das Verpackungsverfahren die folgenden Schritte umfasst: Verpacken mit lebensmittelechten, feuchtigkeitsdichten Verpackungsbeuteln gemäß der Spezifikation von 5 - 10 g pro Beutel; und dann Verpacken der kleinen Beutel in große Pakete gemäß einer bestimmten Anzahl.

5. Herstellungsverfahren nach Anspruch 2, dadurch gekennzeichnet, dass vor der Zugabe von Speisealkohol die Rohstoffe der einzelnen Komponenten gemischt, zerkleinert und mit 80 Maschen gesiebt werden.