CLAIMS

1. A coated algae powder for adding to dairy cow feed, comprising a core material particle and an enteric coating layer coated on the core material particle, wherein a mass ratio of the core material particle to an enteric coating material in the enteric coating layer is 10: (2-4); and the core material particle comprises an algae powder, a binder, an emulsifier and an antioxidant, wherein: the binder comprises starch; the antioxidant comprises magnolol; the emulsifier comprises α-lauric acid monoglyceride and a sucrose fatty acid ester in a mass ratio of (1.5-2.5) : 1; and the enteric coating material comprises polyacrylic resin III and polyacrylic resin II in a mass ratio of (0.6-1): (2-3.3).

2. The coated algae powder for adding to dairy cow feed according to claim 1, wherein the coated algae powder for adding to dairy cow feed satisfies at least one of the followings conditions A-D:

A. a mass ratio of the algae powder to the binder is 1: (0.0625-0.2); and/or the emulsifier comprises 0.1-0.3% of a total mass of the core material particle;

B. the enteric coating layer comprises an enteric coating material, a plasticizer and an antiadherent in a mass ratio of 1: (0.01-0.5): (0.02-0.5); the antiadherent is one or more of glycerol monostearate and glycerol monolaurate; and the plasticizer is one or more of polyethylene glycol and triethyl citrate;

C. the coated algae powder for adding to dairy cow feed further comprises an ethylcellulose coating layer between the core material particle and the enteric coating layer, wherein a mass ratio of the ethylcellulose coating layer to the core material particle is (0.05-0.1) : 10; and

D. a mass content of the algae powder in the coated algae powder is 30%-70%.

3. The coated algae powder for adding to dairy cow feed according to claim 1 or 2, wherein a mass ratio of the algae powder to the antioxidant is 10: (0.1-0.2).

4. The coated algae powder for adding to dairy cow feed according to claim 1 or 2, wherein the antioxidant further comprises at least one of vitamin C and vitamin A.

5. A method for preparing a coated algae powder for adding to dairy cow feed according to any one of claims 1-4, comprising the steps of:

Granulating Step: adding a binder into water to prepare a binder solution, mixing the binder solution with an emulsifier and an algae powder to obtain a mixture, and homogenizing, drying and granulating the mixture to obtain particles; and

Enteric Coating Step: dissolving a raw material for an enteric coating layer into an ethanol aqueous solution to prepare an enteric coating solution, and coating the particles obtained in the Granulating Step with the enteric coating solution to obtain the coated algae powder;

or comprising the steps of:

Granulating Step: adding a binder into water to prepare a binder solution, mixing the binder solution with an emulsifier and an algae powder to obtain a mixture, and homogenizing, drying and granulating the mixture to obtain particles;

Ethylcellulose Coating Step: dissolving ethylcellulose into an ethanol aqueous solution to prepare an inner coating solution, and coating the particles obtained in the Granulating Step with the inner coating solution to obtain ethylcellulose-coated particles; and

Enteric Coating Step: dissolving a raw material for an enteric coating layer into an ethanol aqueous solution to prepare an enteric coating solution, and coating the ethylcellulose-coated particles with the enteric coating solution to obtain the coated algae powder.

6. The method for preparing a coated algae powder for adding to dairy cow feed according to claim 5, wherein: in the Granulating Step, an antioxidant is firstly mixed with the algae powder, then mixed with the binder solution, and the emulsifier is then added in to the mixture; and/or the homogenizing is carried out at a temperature of 40-50°C and a pressure of 160-180 bar; and/or the drying is carried out at a temperature of 70-90°C; and/or in the Ethylcellulose Coating Step, a flow rate of the inner coating solution is in a range of 0.05-3.5 L/min, an inlet air temperature is in a range of 45-55°C, an outlet air temperature is in a range of 20-30°C, and a coating time is in a range of 1-2 h; and/or in the Enteric Coating Step, a flow rate of the enteric coating solution is in a range of 0.05-3.5 L/min, an inlet air temperature is in a range of 55-85°C, an outlet air temperature is in a range of 20-30°C, and a coating time is in a range of 3-4 h.

7. A dairy cow feed comprising the coated algae powder for adding to dairy cow feed

according to any one of claims 1-4, the dairy cow feed further comprising a concentrate and/or a roughage, wherein the concentrate comprises at least one of rumen-protected choline, rumen-protected glucose, rumen-protected lysine, yeast powder, a vitamin, a mineral, corn flour, and soybean meal; and the roughage comprises at least one of corn silage, oat hay, alfalfa hay, and forage grass.

8. The dairy cow feed according to claim 7, comprising the coated algae powder, the concentrate and the roughage in a mass ratio of (0.2-0.5): (10-30): (40-60).

9. A method for feeding a dairy cow, comprising feeding the dairy cow with the dairy cow feed according to claim 7 or 8, wherein an intake of the coated algae powder is in a range of 200-500 g/day/cow.

10. The method for feeding a dairy cow according to claim 9, wherein the dairy cow is a dairy cow in a lactation period of 10-210 days.

11. A dairy product which is prepared by sterilizing a raw milk produced by a dairy cow which is fed by the method according to claim 9.

12. The dairy product according to claim 11, wherein the dairy cow is continuously fed by the method according to claim 9 for 15-25 days.