cells such as lactic acid bacteria together with polyglycerin fatty acid ester alone or polyglycerin fatty acid ester in combination with organic acid monoglyceride into the beverage would significantly improve the dispersibility of the sediments or aggregates of microbial cells that are generated at the time of production and during storage of a beverage containing microbial cells such as lactic acid bacteria. This has led to the completion of the present disclosure.

[0007a]

In one aspect, the present disclosure refers to a beverage that contains lactic acid bacterial cells comprising (A) lyophilized lactic acid bacterial cell powder dispersed in the beverage and (B) polyglycerin fatty acid ester composed of polyglycerin having a polymerization degree of 3 to 10 and fatty acid having 10 to 18 carbon atoms connected by ester bonds.

[0007b]

In another aspect, the present disclosure refers to a method for producing a beverage that contains lactic acid bacterial cells, comprising a step of mixing a solution containing lyophilized lactic acid bacterial cell powders dispersed in the beverage with an emulsifier solution containing polyglycerin fatty acid ester dispersed in an alkaline solution at 50°C to 90°C and homogenizing the mixture.

[0007c]

In another aspect, the present disclosure refers to a method for producing a beverage that contains lactic acid bacterial cells, comprising a step of mixing a solution containing lyophilized lactic acid bacterial cells powders dispersed in the beverage with an emulsifier solution containing polyglycerin fatty acid ester and organic acid monoglyceride dispersed in an alkaline solution at 50°C to 90°C and homogenizing the mixture.

[0007d]

In another aspect, the present disclosure refers to a method for improving the dispersibility of a sediment or aggregate of lactic acid bacterial cells in a food or

beverage product by mixing a solution containing lyophilized lactic acid bacterial cell powders dispersed in the beverage with an emulsifier solution containing polyglycerin fatty acid ester dispersed in an alkaline solution at 50°C to 90°C and homogenizing the mixture.

[0007e]

In yet another aspect, the present disclosure refers to a method for improving the dispersibility of a sediment or aggregate of lactic acid bacterial cells in a food or beverage product by mixing a solution containing lyophilized lactic acid bacterial cell powders dispersed in the beverage with an emulsifier solution containing polyglycerin fatty acid ester and organic acid monoglyceride dispersed in an alkaline solution at 50°C to 90°C and homogenizing the mixture.

Specifically, the present disclosure includes the following.

(1) A beverage that contains microbial cells comprising (A) microbial cell powder and (B) polyglycerin fatty acid ester composed of polyglycerin having a polymerization degree of 3 to 10 and fatty acid having 10 to 18 carbon atoms connected by ester bonds.

(2) The beverage that contains microbial cells according to (1), wherein the polyglycerin fatty acid ester is pentaglycerin monolaurate.

(3) The beverage that contains microbial cells according to (1) or (2), wherein the beverage further contains organic acid monoglyceride.

(4) The beverage that contains microbial cells according to (3), wherein an organic acid constituting the organic acid monoglyceride is selected from among acetic acid, lactic acid, citric acid, succinic acid, and diacetyl tartaric acid.

(5) The beverage that contains microbial cells according to (3) or (4), wherein, provided that the polyglycerin fatty acid ester content relative to the total amount of the beverage is designated X and the organic acid monoglyceride content relative to the total amount of the beverage is designated Y, the value of Y/X is 10 or less by mass.

(6) The beverage that contains microbial cells according to any of (3) to (5), wherein the beverage contains pentaglycerin monolaurate and succinic acid ester of glycerin monostearate.

(7) The beverage that contains microbial cells according to any of (3) to (5),

CLAIMS

1. A beverage that contains lactic acid bacterial cells comprising (A) lyophilized lactic acid bacterial cell powder dispersed in the beverage and (B) polyglycerin fatty acid ester composed of polyglycerin having a polymerization degree of 3 to 10 and fatty acid having 10 to 18 carbon atoms connected by ester bonds.

2. The beverage that contains lactic acid bacterial cells according to claim 1, wherein the polyglycerin fatty acid ester is pentaglycerin monolaurate.

3. The beverage that contains lactic acid bacterial cells according to claim 1 or 2, wherein the beverage further contains organic acid monoglyceride.

4. The beverage that contains lactic acid bacterial cells according to claim 3, wherein an organic acid constituting the organic acid monoglyceride is selected from acetic acid, lactic acid, citric acid, succinic acid, and diacetyl tartaric acid.

5. The beverage that contains lactic acid bacterial cells according to claim 3 or 4, wherein, provided that the polyglycerin fatty acid ester content relative to the total amount of the beverage is designated X and the organic acid monoglyceride content relative to the total amount of the beverage is designated Y, the value of Y/X is 10 or less by mass.

6. The beverage that contains lactic acid bacterial cells according to any one of claims 3 to 5, wherein the beverage contains pentaglycerin monolaurate and succinic acid ester of glycerin monostearate.

7. The beverage that contains lactic acid bacterial cells according to any one of claims 3 to 5, wherein the beverage contains pentaglycerin monomyristate and diacetyl tartaric acid ester of glycerin monostearate.

8. The beverage that contains lactic acid bacterial cells according to any one of claims 3 to 5, wherein the beverage contains decaglycerin monomyristate, pentaglycerin monolaurate, and succinic acid ester of glycerin monostearate.

9. The beverage that contains lactic acid bacterial cells according to claim 1 or 2, wherein the polyglycerin fatty acid ester content in the beverage is 0.001% to 0.2% by

mass.

10. The beverage that contains lactic acid bacterial cells according to any one of claims 3 to 8, wherein the content of polyglycerin fatty acid ester and organic acid monoglyceride in the beverage is 0.001% to 0.2% by mass.

11. The beverage that contains lactic acid bacterial cells according to any one of claims 1 to 10, wherein the lactic acid bacterial cells are disrupted cells.

12. The beverage that contains lactic acid bacterial cells according to any one of claims 1 to 11, wherein the lactic acid bacteria belong to the genus *Lactobacillus*.

13. The beverage that contains lactic acid bacterial cells according to any one of claims 1 to 12, wherein the beverage contains milk.

14. The beverage that contains lactic acid bacterial cells according to any one of claims 1 to 13, wherein the beverage contains carbon dioxide.

15. A method for producing a beverage that contains lactic acid bacterial cells, comprising a step of mixing a solution containing lyophilized lactic acid bacterial cell powders dispersed in the beverage with an emulsifier solution containing polyglycerin fatty acid ester dispersed in an alkaline solution at 50°C to 90°C and homogenizing the mixture.

16. A method for producing a beverage that contains lactic acid bacterial cells, comprising a step of mixing a solution containing lyophilized lactic acid bacterial cells powders dispersed in the beverage with an emulsifier solution containing polyglycerin fatty acid ester and organic acid monoglyceride dispersed in an alkaline solution at 50°C to 90°C and homogenizing the mixture.

17. The method for producing a beverage that contains lactic acid bacterial cells according to claim 15 or 16, wherein the lactic acid bacterial cells are disrupted cells.

18. A method for improving the dispersibility of a sediment or aggregate of lactic acid bacterial cells in a food or beverage product by mixing a solution containing lyophilized lactic acid bacterial cell powders dispersed in the beverage with an emulsifier solution containing polyglycerin fatty acid ester dispersed in an alkaline

solution at 50°C to 90°C and homogenizing the mixture.

19. A method for improving the dispersibility of a sediment or aggregate of lactic acid bacterial cells in a food or beverage product by mixing a solution containing lyophilized lactic acid bacterial cell powders dispersed in the beverage with an emulsifier solution containing polyglycerin fatty acid ester and organic acid monoglyceride dispersed in an alkaline solution at 50°C to 90°C and homogenizing the mixture.

20. The method for improving the dispersibility of a sediment or aggregate of lactic acid bacterial cells in a food or beverage product according to claim 18 or 19, wherein the lactic acid bacterial cells are disrupted cells.