CLAIMS

[Claim 1]

A nutritional composition having a fluidization characteristic comprising an adjuvant selected from the group consisting of a water-absorbing dietary fiber in an amount of from 0.10 or more to less than 1.50% by weight of the nutritional composition, a thickening agent that does not have a network structure in an aqueous solution in an amount of from 0.10 or more to less than 5.00% by weight of the nutritional composition, and a starch not having been subjected to pregelatinization treatment in advance in an amount of from 0.10 to 5.00% by weight of the nutritional composition, wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate 0.1/s to 1000/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,

the value of n is 0.3 to 1.0 and the viscosity at a shear rate of 10/s (25°C) is 150 mPa·s or more.

[Claim 2]

A nutritional composition having a fluidization characteristic comprising an adjuvant selected from the group consisting of a water-absorbing dietary fiber in an amount of 0.10 or more to less than 1.50% by weight of the nutritional composition, a thickening agent that does not have a network structure in an aqueous solution in an amount of 0.10 or more to less than 5.00% by weight of the nutritional composition, and a starch not having been subjected to pregelatinization treatment in advance in an amount of 0.10 to 5.00% by weight of the nutritional composition, wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate of 0.1/s to 100/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,

the value of n is 0.4 to 0.8 and the viscosity at a shear rate of 10/s (25°C) is 150 to 1000 mPa·s or more.

[Claim 3]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, wherein the water-absorbing dietary fiber is an insoluble dietary fiber.

[Claim 4]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, wherein the water-absorbing dietary fiber is an insoluble fiber of a *fusuma* bran dietary fiber of a cereal.

[Claim 5]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, wherein the water-absorbing dietary fiber is an insoluble fiber of soybean dietary fiber and/or soybean *fusuma* bran.

[Claim 6]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, wherein the thickening agent that does not have a network structure in an aqueous solution is a thickening agent selected from the group consisting of ι-carrageenan, λ-carrageenan, locust bean gum, guar gum, psyllium seed gum, and tamarind seed gum.

[Claim 7]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, comprising one or more from the group consisting of protein, lipid, and sugar, wherein the specific gravity of the composition is 1.06 to 1.5.

[Claim 8]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, comprising one or more from the group consisting of a thickening agent and an emulsifier.

[Claim 9]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, wherein the viscosity of the composition is 5 to 300 mPa·s, wherein the viscosity of the composition is measured at 45 to 85°C and 12 rpm using a spindle type rotational viscometer.

[Claim 10]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, wherein a homogenization treatment is performed prior to a heat treatment by adjusting the homogenization treatment pressure to 10 to 100 MPa, and wherein said heat treatment is used to produce the nutritional composition.

[Claim 11]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, wherein the viscosity of the composition reaches 300 to 3000 mPa·s by subjecting the composition to a heat treatment and then to storage at a temperature equal to or below normal temperature of 15 to 25°C for 1 to 90 days, wherein the viscosity of the composition is measured at 20°C and 12 rpm using a spindle type rotational viscometer, wherein said heat treatment is used to produce the nutritional composition.

[Claim 12]

A nutritional composition having a fluidization characteristic comprising an adjuvant according to claim 1 or 2, wherein the adjuvant is selected from the group consisting of a water-absorbing dietary fiber in an amount of 0.10 or more to less than 1.50% by weight of the nutritional composition, a thickening agent that does not have a network structure in an aqueous solution in an amount of 0.10 or more to less than 5.00% by weight of the nutritional composition, and a starch not having been subjected to pregelatinization treatment in advance in an amount of 0.10 to 5.00% by weight of the nutritional composition and wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate of 0.1/s to 1000/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,

the value of n is 0.3 to 1.0 and the viscosity at a shear rate of 10/s (25°C) is 150 mPa·s or more, and

wherein the composition has been subjected to a heat treatment and then stored at a temperature equal to or below normal temperature of 15 to 25°C for 1 to 90 days, wherein said heat treatment is used to produce the nutritional composition.

[Claim 13]

A nutritional composition having a fluidization characteristic comprising an adjuvant according to claim 1 or 2, wherein the adjuvant is selected from the group consisting of a water-absorbing dietary fiber in an amount of 0.10 or more to less than 1.50% by weight of the nutritional composition, a thickening agent that does not have a network structure in an aqueous solution in an amount of 0.10 or more to less than 5.00% by weight of the nutritional composition, and a starch not having been subjected to pregelatinization treatment in advance in an amount of 0.10 to 5.00% by weight of the nutritional composition and wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate of 0.1/s to 100/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,

the value of n is 0.4 to 0.8 and the viscosity at a shear rate of 10/s (25°C) is 150 mPa·s or more, and

wherein the composition has been subjected to a heat treatment and then stored at a temperature equal to or below normal temperature of 15 to 25°C for 1 to 90 days, wherein said heat treatment is used to produce the nutritional composition.

[Claim 14]

A method for producing a viscous nutritional composition, comprising the steps of:

i) preparing a starch not having been subjected to pregelatinization treatment in advance, wherein said starch not having been subjected to pregelatinization treatment in advance is 0.10 to 5.00% by weight relative to the nutritional composition,

ii) applying pressure treatment for homogenization, and

iii) applying heat treatment,

wherein the viscosity of the composition prior to the heat treatment is 5 to 300 mPa·s, wherein the viscosity of the composition prior to the heat treatment is measured at 45 to 85°C and 12 rpm using a spindle type rotational viscometer, and the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is 300 to 3000 mPa·s, wherein the viscosity of the composition after the heat treatment and storage at a temperature equal to or

below normal temperature for 1 to 90 days is measured at 20°C and 12 rpm using a spindle type rotational viscometer.

[Claim 15]

A method for producing a viscous nutritional composition, comprising the steps of:

i) preparing a starch not having been subjected to pregelatinization treatment in advance, wherein said starch not having been subjected to pregelatinization treatment in advance is 0.10 to 5.00% by weight relative to the nutritional composition,

ii) applying pressure treatment for homogenization, and

iii) applying heat treatment,

wherein the viscosity of the composition prior to the heat treatment is 5 to 300 mPa·s, wherein the viscosity of the composition prior to the heat treatment is measured at 45 to 85°C and 12 rpm using a spindle type rotational viscometer, and the homogenization treatment pressure in the step of applying pressure treatment for homogenization is 10 to 100 MPa, and the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is 300 to 3000 mPa·s, wherein the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is measured at 20°C and 12 rpm using a spindle type rotational viscometer.

[Claim 16]

A method for producing a nutritional composition having a fluidization characteristic comprising an adjuvant, wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate of 0.1/s to 1000/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,

the value of n is 0.3 to 1.0 and the viscosity at a shear rate of 10/s (25°C) is 150 mPa·s or more, comprising the steps of:

i) preparing an adjuvant selected from the group consisting of a water-absorbing dietary fiber, a thickening agent that does not have a network structure in an aqueous solution, and a starch not having been subjected to pregelatinization treatment in advance, wherein said adjuvant is 0.10 to 5.00% by weight relative to the nutritional

composition,
ii) applying pressure treatment for homogenization, and
iii) applying heat treatment,
wherein the viscosity of the composition prior to the heat treatment is 5 to 300 mPa·s, wherein the viscosity of the composition prior to the heat treatment is measured at 45 to 85°C and 12 rpm using a spindle type rotational viscometer, and the homogenization treatment pressure in the step of applying pressure treatment for homogenization is 10 to 100 MPa, and the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature of 15 to 25°C for 1 to 90 days is 300 to 3000 mPa·s, wherein the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature of 15 to 25°C for 1 to 90 days is measured at 20°C and 12 rpm using a spindle type rotational viscometer.

[Claim 17]

A method for producing a nutritional composition having a fluidization characteristic, wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate of 0.1/s to 100/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,
the value of n is 0.4 to 0.8 and the viscosity at a shear rate of 10/s (25°C) is 150 to 1000 mPa·s, comprising the steps of:
i) preparing an adjuvant selected from the group consisting of a water-absorbing dietary fiber, a thickening agent that does not have a network structure in an aqueous solution, and a starch not having been subjected to pregelatinization treatment in advance, wherein said adjuvant is 0.10 to 5.00% by weight relative to the nutritional composition,
ii) applying pressure treatment for homogenization, and
iii) applying heat treatment,
wherein the viscosity of the composition prior to the heat treatment is 5 to 300 mPa·s, wherein the viscosity of the composition prior to the heat treatment is measured at 45 to 85°C and 12 rpm using a spindle type rotational viscometer, and the homogenization treatment pressure in the step of applying pressure treatment for homogenization is 10 to 100 MPa, and the viscosity of the composition after the heat

treatment and storage at a temperature equal to or below normal temperature of 15 to 25°C for 1 to 90 days is 300 to 3000 mPa·s, wherein the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature of 15 to 25°C for 1 to 90 days is measured at 20°C and 12 rpm using a spindle type rotational viscometer.

CLAIMS

[Claim 1]

A nutritional composition having a fluidization characteristic comprising an adjuvant that imparts a viscous property but not a shear thinning characteristic, wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate 0.1/s to 1000/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,
the value of n is 0.3 to 1.0 and the viscosity at a shear rate of 10/s (25°C) is 150 mPa·s or more.

[Claim 2]

A nutritional composition having a fluidization characteristic comprising an adjuvant that imparts a viscous property but not a shear thinning characteristic, wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate of 0.1/s to 100/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,
the value of n is 0.4 to 0.8 and the viscosity at a shear rate of 10/s (25°C) is 150 to 1000 mPa·s or more.

[Claim 3]

The nutritional composition having a fluidization characteristic according to claim 1 or 2, wherein the adjuvant that imparts a viscous property but not a shear thinning characteristic is selected from the group consisting of a water-absorbing dietary fiber, a thickening agent that does not have a network structure in an aqueous solution, and a starch not having been subjected to pregelatinization treatment in advance.

[Claim 4]

The nutritional composition having a fluidization characteristic according to any of claims 1 to 3, comprising the adjuvant that imparts a viscous property but not a shear thinning characteristic according to any of claims 1 to 3 in an amount of 0.10 to 5.00% by weight of the nutritional composition, and having a property such that viscosity thereof is increased by heat treatment.

[Claim 5]

The nutritional composition having a fluidization characteristic according to any of claims 1 to 4, wherein the adjuvant that imparts a viscous property but not a shear thinning characteristic is a water-absorbing dietary fiber.

[Claim 6]

The nutritional composition having a fluidization characteristic according to any of claims 3 to 5, wherein the water-absorbing dietary fiber is an insoluble dietary fiber.

[Claim 7]

The nutritional composition having a fluidization characteristic according to any of claims 3 to 6, wherein the water-absorbing dietary fiber is an insoluble fiber of a *fusuma* bran dietary fiber of a cereal.

[Claim 8]

The nutritional composition having a fluidization characteristic according to any of claims 3 to 7, wherein the water-absorbing dietary fiber is an insoluble fiber of soybean dietary fiber and/or soybean *fusuma* bran.

[Claim 9]

The nutritional composition having a fluidization characteristic according to any of claims 1 to 4, wherein the adjuvant that imparts a viscous property but not a shear thinning characteristic is a thickening agent that does not have a network structure in an aqueous solution.

[Claim 10]

The nutritional composition having a fluidization characteristic according to claim 9, wherein the thickening agent that does not have a network structure in an aqueous solution is a

thickening agent selected from the group consisting of ι-carrageenan, λ-carrageenan, locust bean gum, guar gum, psyllium seed gum, and tamarind seed gum.

[Claim 11]

The nutritional composition having a fluidization characteristic according to any of claims 1 to 4, wherein the adjuvant that imparts a viscous property but not a shear thinning characteristic is a starch not having been subjected to pregelatinization treatment in advance.

[Claim 12]

The nutritional composition having a fluidization characteristic according to any of claims 1 to 11, comprising one or more from the group consisting of protein, lipid, and sugar, wherein the specific weight of the composition is 1.06 to 1.5.

[Claim 13]

The nutritional composition having a fluidization characteristic according to any of claims 1 to 12, comprising one or more from the group consisting of a thickening agent and an emulsifier.

[Claim 14]

The nutritional composition having a fluidization characteristic according to any of claims 1 to 13, wherein the viscosity of the composition is 5 to 300 mPa·s, wherein the viscosity of the composition is measured at 45 to 85°C and 12 rpm using a B-type viscometer.

[Claim 15]

The nutritional composition having a fluidization characteristic according to any of claims 1 to 14, wherein homogenization treatment is performed by adjusting the homogenization treatment pressure to 10 to 100 MPa.

[Claim 16]

The nutritional composition having a fluidization characteristic according to any of claims 1 to 15, wherein the viscosity of the composition reaches 300 to 3000 mPa·s by subjecting the composition to heat treatment and then to storage at a temperature equal to or below normal temperature for 1 to 90 days, wherein the viscosity of the composition is measured at 20°C and 12 rpm using a B-type viscometer.

[Claim 17]

A nutritional composition having a fluidization characteristic comprising an adjuvant that imparts a viscous property but not a shear thinning characteristic according to any of claims 1 to 16, wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate of 0.1/s to 1000/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,
the value of n is 0.3 to 1.0 and the viscosity at a shear rate of 10/s (25°C) is 150 mPa·s or more, and
wherein the composition has been subjected to heat treatment and then stored at a temperature equal to or below normal temperature for 1 to 90 days.

[Claim 18]

A nutritional composition having a fluidization characteristic comprising an adjuvant that imparts a viscous property but not a shear thinning characteristic according to any of claims 1 to 16, wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate of 0.1/s to 100/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,
the value of n is 0.4 to 0.8 and the viscosity at a shear rate of 10/s (25°C) is 150 mPa·s or more, and
wherein the composition has been subjected to heat treatment and then stored at a temperature equal to or below normal temperature for 1 to 90 days.

[Claim 19]

A method for producing a viscous nutritional composition, comprising the steps of:
i) preparing an adjuvant that imparts a viscous property but not a shear thinning characteristic selected from the group consisting of a water-absorbing dietary fiber, a thickening agent that

does not have a network structure in an aqueous solution, and a starch not having been subjected to pregelatinization treatment in advance, wherein said adjuvant is 0.10 to 5.00% by weight relative to the nutritional composition,

ii) applying pressure treatment for homogenization, and

iii) applying heat treatment,

wherein the viscosity of the composition prior to the heat treatment is 5 to 300 mPa·s, wherein the viscosity of the composition prior to the heat treatment is measured at 45 to 85°C and 12 rpm using a B-type viscometer, and the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is 300 to 3000 mPa·s, wherein the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is measured at 20°C and 12 rpm using a B-type viscometer.

[Claim 20]

A method for producing a viscous nutritional composition, comprising the steps of:

i) preparing an adjuvant that imparts a viscous property but not a shear thinning characteristic selected from the group consisting of a water-absorbing dietary fiber, a thickening agent that does not have a network structure in an aqueous solution, and a starch not having been subjected to pregelatinization treatment in advance, wherein said adjuvant is 0.10 to 5.00% by weight relative to the nutritional composition,

ii) applying pressure treatment for homogenization, and

iii) applying heat treatment,

wherein the viscosity of the composition prior to the heat treatment is 5 to 300 mPa·s, wherein the viscosity of the composition prior to the heat treatment is measured at 45 to 85°C and 12 rpm using a B-type viscometer, and the homogenization treatment pressure in the step of applying pressure treatment for homogenization is 10 to 100 MPa, and the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is 300 to 3000 mPa·s, wherein the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is measured at 20°C and 12 rpm using a B-type viscometer.

[Claim 21]

A method for producing a nutritional composition having a fluidization characteristic comprising an adjuvant that imparts a viscous property but not a shear thinning characteristic, wherein the composition is prepared so that when results of measurement of shear stress and shear rate at any two or more measurement points in a shear rate range of shear rate of 0.1/s to 1000/s are expressed by the following viscous property formula:

$P = \mu D^n$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index,

the value of n is 0.3 to 1.0 and the viscosity at a shear rate of 10/s (25°C) is 150 mPa·s or more, comprising the steps of:

i) preparing an adjuvant that imparts a viscous property but not a shear thinning characteristic selected from the group consisting of a water-absorbing dietary fiber, a thickening agent that does not have a network structure in an aqueous solution, and a starch not having been subjected to pregelatinization treatment in advance, wherein said adjuvant is 0.10 to 5.00% by weight relative to the nutritional composition,

ii) applying pressure treatment for homogenization, and

iii) applying heat treatment,

wherein the viscosity of the composition prior to the heat treatment is 5 to 300 mPa·s, wherein the viscosity of the composition prior to the heat treatment is measured at 45 to 85°C and 12 rpm using a B-type viscometer, and the homogenization treatment pressure in the step of applying pressure treatment for homogenization is 10 to 100 MPa, and the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is 300 to 3000 mPa·s, wherein the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is measured at 20°C and 12 rpm using a B-type viscometer.

[Claim 22]

A method for producing a nutritional composition having a fluidization characteristic, wherein the composition is prepared so that when results of measurement of viscosity at any

two or more measurement points in a shear rate range of shear rate of 0.1/s to 100/s are expressed by the following viscous property formula:

$$P = \mu D^n$$

wherein, P represents a shear stress (Pa), D represents a shear rate (1/s), μ represents a non-Newtonian viscosity coefficient, and n represents a non-Newtonian viscosity index, the value of n is 0.4 to 0.8 and the viscosity at a shear rate of 10/s (25°C) is 150 to 1000 mPa·s, comprising the steps of:

i) preparing an adjuvant that imparts a viscous property but not a shear thinning characteristic selected from the group consisting of a water-absorbing dietary fiber, a thickening agent that does not have a network structure in an aqueous solution, and a starch not having been subjected to pregelatinization treatment in advance, wherein said adjuvant is 0.10 to 5.00% by weight relative to the nutritional composition,

ii) applying pressure treatment for homogenization, and

iii) applying heat treatment,

wherein the viscosity of the composition prior to the heat treatment is 5 to 300 mPa·s, wherein the viscosity of the composition prior to the heat treatment is measured at 45 to 85°C and 12 rpm using a B-type viscometer, and the homogenization treatment pressure in the step of applying pressure treatment for homogenization is 10 to 100 MPa, and the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is 300 to 3000 mPa·s, wherein the viscosity of the composition after the heat treatment and storage at a temperature equal to or below normal temperature for 1 to 90 days is measured at 20°C and 12 rpm using a B-type viscometer.