CLAIMS

1. An edible non-animal dairy substitute product, comprising
   a) an edible fibrous mycelium mass in the range of 1 wt% to 99 wt%, and
   b) water in the range of up to 99 wt%,
   wherein the edible fibrous mycelium has an insoluble fiber content of at least 39% w/w.

2. The edible non-animal dairy substitute product of claim 1, wherein the edible fibrous mycelium mass is derived from submerged fermentation.

3. The edible non-animal dairy substitute product of claim 1 or 2, wherein the fibrous mycelium mass has a protein content of between 10 wt% and 60 wt%,
   preferably wherein the fibrous mycelium mass has a protein content of between 20 wt% and 50 wt% of a dry mass of the fibrous mycelium mass,
   more preferably wherein the fibrous mycelium mass has a protein content of between 25 wt% and 35 wt% of a dry mass of the fibrous mycelium mass.

4. The edible non-animal dairy substitute product of any one of claims 1 to 3, comprising the fibrous mycelium mass in the range of 20 wt% to 95 wt%,
   preferably comprising the fibrous mycelium mass in the range of 65 wt% to 90 wt%,
   or
   comprising the fibrous mycelium mass in the range of 1 wt% to 35 wt%.

5. The edible non-animal dairy substitute product of any one of claims 1 to 4, wherein the phosphorus content of the edible non-animal dairy substitute product is from 40 to 500 mg per 100 g weight of the edible non-animal dairy substitute product,
   preferably wherein the phosphorus content of the edible non-animal dairy substitute product is from 60 to 250 mg per 100 g weight of the edible non-animal dairy substitute product,
   and/ or
   wherein the calcium content of the edible non-animal dairy substitute product is from 20 to 400 mg per 100 g weight of the edible non-animal dairy substitute product,

preferably wherein the calcium content of the edible non-animal dairy substitute product is from 25 to 400 mg per 100 g weight of the edible non-animal dairy substitute product, more preferably wherein the calcium content of the edible non-animal dairy substitute product is from 40 to 250 mg per 100 g weight of the edible non-animal dairy substitute product,

and/ or

wherein the zinc content of the edible non-animal dairy substitute product is from 0.5 to 5 mg per 100 g weight of the edible non-animal dairy substitute product,

preferably wherein the zinc content of the edible non-animal dairy substitute product is from 0.3 to 4 mg per 100 g weight of the edible non-animal dairy substitute product.

6. The edible non-animal dairy substitute product of any one of claims 1 to 5, further comprising a texturizing agent, such as agar-agar, edible starch, guar gum, locust bean gum, wheat gluten, cellulose or derivatives of it, colorants and/or a flavorant, such as salt, extracts and/or spices.

7. The edible non-animal dairy substitute product of any one of claims 1 to 6, further comprising an edible plant, or algae-based fat component, a fat component derived from fungi or yeast, in the range of up to 60 wt%, preferably up to 25 wt%, and most preferably from 1 wt% to 5 wt%,

or

further comprising an edible plant, or algae-based fat component, a fat component derived from fungi or yeast, in the range of up to 25 wt%,

or

further comprising an edible plant, or algae-based fat component, a fat component derived from fungi or yeast, in the range from 1 wt% to 5 wt%,

preferably wherein the edible plant-based fat component is selected from coconut oil, sunflower oil, rapeseed oil, palm oil, cotton seed oil, olive oil, canola oil, algae oil, or oleaginous yeast-derived oils.

8. The edible non-animal dairy substitute product of any one of claims 1 to 7, wherein the edible non-animal dairy substitute product is selected from products substituting milk, yoghurt, fresh cheese, whey cheese, cream cheese, medium-hard cheese, hard-cheese, and soft-mould cheese.

9. The edible non-animal dairy substitute product of any one of claims 1 to 8, wherein the edible fibrous mycelium has an insoluble fiber content of between 39% w/w and 60% w/w,
preferably wherein the edible fibrous mycelium has an insoluble fiber content of between 40% w/w and 55% w/w,
more preferably wherein the edible fibrous mycelium has an insoluble fiber content of between 40% w/w and 50% w/w,
even more preferably wherein the edible fibrous mycelium has an insoluble fiber content of about 45% w/w.

10. The edible non-animal dairy substitute product of any one of claims 1 to 8, wherein the edible fibrous mycelium has an insoluble fiber content of at least 40%,
preferably wherein the edible fibrous mycelium has an insoluble fiber content of at least 50%,
more preferably wherein the edible fibrous mycelium has an insoluble fiber content of at least 60%.

11. The edible non-animal dairy substitute product of any one of claims 1 to 10, wherein the edible fibrous mycelium has a fat content of 1 to 5 g per 100 g of said mycelium,
preferably wherein the edible fibrous mycelium has a fat content of 2 to 4 g per 100 g of said mycelium,
more preferably wherein the edible fibrous mycelium has a fat content of 2 to 3.5 g per 100 g of said mycelium.

12. An edible fibrous mycelium derived from submerged fermentation having an insoluble fiber content of at least 39% w/w.

13. The edible fibrous mycelium of claim 12, wherein the edible fibrous mycelium has an insoluble fiber content of at least 40%,
preferably wherein the edible fibrous mycelium has an insoluble fiber content of at least 50%,
more preferably wherein the edible fibrous mycelium has an insoluble fiber content of at least 60%,
or
wherein the edible fibrous mycelium has an insoluble fiber content of between 39% w/w and 60% w/w,

preferably wherein the edible fibrous mycelium has an insoluble fiber content of between 40% w/w and 55% w/w more preferably wherein the edible fibrous mycelium has an insoluble fiber content of between 40% w/w and 50% w/w,
even more preferably wherein the edible fibrous mycelium has an insoluble fiber content of about 45% w/w.

14. The edible fibrous mycelium of claim 12 or 13, wherein the edible fibrous mycelium has a phosphorus content of at least 120 mg per 100 g weight, preferably at least 1000 mg per 100 g weight, more preferably at least 2000 mg per 100 g weight, for example 2131 mg per 100 g weight,
and/ or
wherein the edible fibrous mycelium has a calcium content of at least 80 mg per 100 g weight, preferably 1000 mg per 100 g weight, for example 1331 mg per 100 g weight,
and/ or
wherein the edible fibrous mycelium has a fat content of 1 to 5 g per 100 g of said mycelium,
preferably wherein the edible fibrous mycelium has a fat content of 2 to 4 g per 100 g of said mycelium,
more preferably wherein the edible fibrous mycelium has a fat content of 2 to 3.5 g per 100 g of said mycelium.

15. Method of producing an edible non-animal dairy substitute product, the method comprising
    a) homogenizing an edible fibrous mycelium mass with water, wherein optionally the edible fibrous mycelium mass is derived from submerged fermentation;
    thereby obtaining an edible non-animal milk substitute product.

16. Method of claim 15, the method further comprising
    b) heating the homogenized mixture to 25 to 95 °C, preferably to 50 °C;
    c) optionally adding a texturizing agent, such as agar-agar, edible starch, guar gum, locust bean gum, wheat gluten, cellulose or derivatives of it to the heated homogenized mixture of step b) and stirring the obtained mixture;
    d) letting the mixture cool down to 20 °C to 45°C;
    e) adding acid-forming bacteria such as lactic acid bacteria culture or enzymes with protein-digesting properties;
    f) mixing the mixture obtained after step e);

thereby obtaining an edible non-animal yoghurt substitute product.

17. Method of claim 15, further comprising:
    b) heating the homogenized mixture to 25 to 95 °C, preferably to 50 °C;
    c) adding an edible plant, algae or fungi-based fat component in the range of up to 60 wt%, preferably up to 25 wt%, and most preferably from 1 wt% to 5 wt%;
    d) homogenizing the mixture obtained after step c);
    e) optionally adding a plant-based emulsifier such as lecithin, mono- and diglycerides, glycerides, monoglyceride derivatives, or fatty acid derivatives;
    f) letting the mixture cool down to 20°C to 45°C, preferably to 25°C to 45°C, most preferably to 32°C to 37°C;
    g) adding acid-forming bacteria in particular lactic acid bacteria culture or enzymes with protein-digesting properties;
    h) mixing the mixture obtained after step g);
    thereby obtaining an edible non-animal cheese substitute product, such as a fresh cheese substitute product, preferably after storing for 1 – 48 h at 1 - 37 °C.

18. Method of claim 17, further comprising:
    i) coagulating the mixture obtained after step h) of claim 11 by adding a coagulating agent to obtain a mixture of coagulated solids and liquids;
    j) allowing the mixture obtained after step i) to settle;
    k) separating the coagulated solids from the liquids;
    l) storing the coagulated solids,
    thereby obtaining an edible non-animal cheese substitute product selected from the group comprising an edible non-animal substitute product for whey cheese, cream cheese, medium-hard cheese, hard-cheese, and soft-mould cheese,
    preferably wherein the coagulating agent is a composition comprising a mineral or organic acid, such as lemon juice, or a non-animal based rennet comprising a mixture of enzymes derived from plants, bacteria or yeast.

19. The method of claim 17 or 18, wherein the edible plant-based fat component is selected from coconut oil, sunflower oil, rapeseed oil, palm oil, cotton seed oil, olive oil, canola oil, algae oil, or oleaginous yeast-derived oils.

20. Use of an edible fibrous mycelium mass of claim 12 or 13 for producing an edible non-animal dairy substitute product, wherein the edible non-animal dairy substitute product is selected from products substituting milk, yoghurt, fresh cheese, whey cheese, cream

cheese, medium-hard cheese, hard-cheese, and soft-mould cheese.

21. The edible non-animal dairy substitute product of any one of claims 1 to 11, or the edible fibrous mycelium mass of any one of claims 12 to 14, or the method of any one of claims 15 to 19, or the use of claim 20, wherein the edible fibrous mycelium mass is obtained from at least one fungal strain selected from Basidiomycota, Ascomycota, Pezizomycotina, Agaromycotina, Pezizomycetes, Agaricomycetes, Sordariomycetes, Pezizales, Boletales, Cantharellales, Agaricales, Polyporales, Russulales, Auriculariales, Hypocreales, Morchellaceae, Tuberaceae, Pleurotaceae, Agaricaceae, Marasmiaceae, Cantharellaceae, Hydnaceae, Boletaceae, Meripilaceae, Polyporaceae, Strophariaceae, Lyophyllaceae, Tricholomataceae, Omphalotaceae, Physalacriaceae, Schizophyllaceae, Sclerodermataceae, Ganodermataceae, Sparassidaceae, Hericiaceae, Bondarzewiaceae, Cordycipitaceae, Auriculariaceae, and Fistulinacea,
preferably wherein the edible fibrous mycelium mass is obtained from at least one fungal strain selected from Basidiomycota, Ascomycota, Pezizomycotina, Agaromycotina, Agaricomycetes, Pezizales, Boletales, Cantharellales, Agaricales, Polyporales, Russulales, Auriculariales, Hypocreales, Morchellaceae, Tuberaceae, Pleurotaceae, Agaricaceae, Marasmiaceae, Cantharellaceae, Hydnaceae, Boletaceae, Meripilaceae, Polyporaceae, Strophariaceae, Lyophyllaceae, Tricholomataceae, Omphalotaceae, Physalacriaceae, Schizophyllaceae, Sclerodermataceae, Ganodermataceae, Sparassidaceae, Hericiaceae, Bondarzewiaceae, Cordycipitaceae, Auriculariaceae, and Fistulinacea,
more preferably wherein the mycelium mass is obtained from *Pleurotus pulmonarius*, *Pleurotus ostreatus, Pleurotus florida, Pleurotus citrinopileatus*, *Pleurotus salmoneostramineus, Morchella esculenta*, *Morchella angusticeps,* or *Morchella deliciosa, or* Morchella rufobrunnea mycelium mass.

22. The edible non-animal dairy substitute product, the edible fibrous mycelium mass, the method the use of claim 21, wherein the edible fibrous mycelium mass is obtained from *Pleurotus pulmonarius* or Morchella rufobrunnea
or
wherein the edible fibrous mycelium mass is obtained from *Pleurotus pulmonarius,*
or
wherein the edible fibrous mycelium mass is obtained from Morchella rufobrunnea.