CLAIMS

1. A cultured dairy analog food product, comprising:

particles of a filamentous fungus belonging to an order selected from the group consisting of *Mucorales*, *Ustilaginales*, *Russulales*, *Polyporales*, *Agaricales*, *Pezizales*, and *Hypocreales*, wherein the filamentous fungus comprises greater than about 40 dry wt. % protein content and less than about 8 dry wt. % RNA content; and

a microbial food culture;

wherein the particles of the filamentous fungus are the source for at least about 50% of protein in the cultured dairy analog food product.

2. The cultured dairy analog food product of claim 1, wherein the microbial food culture comprises a microbe selected from the group consisting of a bacteria, a yeast, a mold, and combinations thereof.

3. The cultured dairy analog food product of claim 1, wherein the cultured dairy analog food product is selected from a yogurt analog food product and a cheese analog food product.

4. The cultured dairy analog food product of claim 1, further comprising at least one of an invert sugar, a thickening agent, a rennet, a probiotic, and an enzymatic water.

5. The cultured dairy analog food product of claim 1, wherein cells of the filamentous fungus are lysed.

6. The cultured dairy analog food product of claim 1, wherein the filamentous fungus comprises less than about 10 ppm of a mycotoxin selected from the group consisting of Alfatoxin B1, Alfatoxin B2, Alfatoxin G1, Alfatoxin G2, Fumonisin B1, Fumonisin B2, Fumonisin B3, Ochratoxin A, Nivalenol, Deoxynivalenol, Acetyl deoxynivalenol, Fusarenon X, T-2 Toxin, HT-2 Toxin, Neosolaniol, Diacetoxyscirpenol zearalenone, beauvericin, fusarin C, fusaric acid and any combinations thereof.

7. The cultured dairy analog food product of claim 1, wherein the filamentous fungus comprises less than about 10 ppm total mycotoxin content.

8. The cultured dairy analog food product of claim 1, wherein the filamentous fungus comprises greater than about 15 wt. % of branched chain amino acids of branched chain amino acids.

9. The cultured dairy analog food product of claim 1, wherein the cultured dairy analog food product is vegan.

10. The cultured dairy analog food product of claim 1, wherein the particles of the filamentous fungus are the sole protein component present in the cultured dairy analog food product.

11. A method for making a cultured dairy analog food product, comprising:

inoculating particles of a filamentous fungus with a microbial food culture, wherein the filamentous fungus belongs to an order selected from the group consisting of *Mucorales*, *Ustilaginales*, *Russulales*, *Polyporales*, *Agaricales*, *Pezizales*, and *Hypocreales*, wherein the filamentous fungus comprises greater than about 40 dry wt. % protein content and less than about 8 dry wt. % RNA content; and wherein the particles of the filamentous fungus are the source for at least about 50% of protein in the cultured dairy analog food product.

12. The method of making a cultured dairy analog food product of claim 11, wherein the particles of the filamentous fungus are in a liquid dispersion.

13. A dairy analog foam material, comprising:

particles of a filamentous fungus; and

a liquid phase,

wherein the solids content of the foam material is between about 5% and about 30%, and wherein the foam is stable.

14. The dairy analog foam material of claim 13, wherein the filamentous fungus belongs to an order selected from the group consisting of *Mucorales*, *Ustilaginales*, *Russulales*, *Polyporales*, *Agaricales*, *Pezizales*, and *Hypocreales*.

15. The dairy analog foam material of claim 13, wherein the particles of the filamentous fungus are particles of a filamentous fungal biomat.

16. The dairy analog foam material of claim 13, wherein the liquid phase is an aqueous phase.

17. The dairy analog foam material of claim 13, further comprising nitrogen gas.

18. The dairy analog foam material of claim 13, having a stability of at least about 50% over 7 days.

19. The dairy analog foam material of claim 1, being free of milk solids.

20. A food product, comprising a foam material, wherein the foam material comprises particles of a filamentous fungus and a liquid phase, wherein the solids content of the foam material is between about 5% and about 30%, and wherein the foam is stable.

21. The food product of claim 20, wherein the food product is a dairy analog food product.

22. The food product of claim 21, wherein the dairy analog food product is selected from the group consisting of an ice cream analog food product, a frozen yogurt analog food product, a cheesecake batter analog food product, and a whipped topping analog food product.

23. The food product of claim 20, wherein the dairy analog food product is vegan.

24. The food product of claim 20, wherein the particles of the filamentous fungus are the sole protein component present in the food product.