CLAIMS

1. A probiotic fortified food product
wherein at least a portion of a surface of the food product includes a composition including at least one probiotic microorganism,
wherein, other than the probiotic microorganism(s), the composition only includes components which are either fully milk-derived or are inherently found in milk;
and wherein the composition has a probiotic microorganism cell count of above 7 log CFU ml^{-1}.

2. The probiotic fortified food product as claimed in any one of the above claims wherein the food product has a water activity (a_w) level between 0.5 to 0.9.

3. The probiotic fortified food product as claimed in claim 1 including at least one species of probiotic micro-organism is selected from the group consisting of a lactic acid bacteria, non-lactic acid bacteria and non-pathogenic yeast.

4. The probiotic fortified food product as claimed in claim 1 wherein at least one probiotic micro-organism is selected from the group consisting of *Lactobacillus acidophilus, Lactobacillus bulgaricus, Lactobacillus casei, Lactobacillus bifidu*s (bifidobacterium), *Streptococcus thermophilus*, and combinations thereof.

5. The probiotic fortified food product as claimed in claim 1 wherein the composition includes reconstituted milk.

6. The probiotic fortified food product as claimed in claim 1 wherein the composition includes at least one coagulated component.

7. The probiotic fortified food product as claimed in claim 7 wherein the at least one coagulated component in the composition is protein and a coagulant is lactic acid.

8. The probiotic fortified food product as claimed in claim 1 wherein the composition includes a milk-derived sugar.

9. The probiotic fortified food product as claimed in claim 1 wherein the composition includes a sugar concentration between 3 to 20 % (w/v).

10. The probiotic fortified food product as claimed in claim 1 wherein the composition includes less than 5% fat (w/v).

11. The probiotic fortified food product of claim 1 where the fortified food product is a baked bread, muesli bar, or bread snack.

12. A method of manufacturing a probiotic fortified food product including
    a. pre-inoculating a composition with an amount of the single species of probiotic micro-organism or combination of different probiotic micro-organisms, wherein other than the probiotic micro-organism, the composition only includes components which are either fully milk-derived or are inherently found in milk;
    b. incubating the composition during an early stationary growth phase of the probiotic micro-organism(s) until a probiotic culture in the composition is achieved with a cell count above 7 log CFU ml^{-1};
    c. applying the composition including the at least one probiotic organism to at least one portion of a surface of the food product.

13. The method of claim 12 wherein following step b. and before step c., the composition is homogenised to form a liquid with a viscosity below 4 cP.

14. The method as claimed in claim 12 wherein, at step b., the composition is inoculated with the at least one micro-organism to achieve a cell count above 9.0 log CFU ml^{-1}.

15. The method as claimed in claim 12 wherein prior to step a., the composition is supplemented with additional amounts of at least one sugar selected from a type of sugar inherently present in milk including lactose, glucose and/or galactose.

16. The method as claimed in claim 12 wherein at step c., the composition is spread as the thin layer less than 0.1 mm thick.

17. The method as claimed in claim 12 including, at step c., applying between 200 µl to 2 ml of the composition to the surface of the food product.

18. The method as claimed in claim 12 including, at step c., spreading the composition across an entire surface of the food product.

19. The method as claimed in claim 12 including, at step c., spraying the composition on the surface of the food product.

20. The method as claimed in claim 12, wherein following step c., includes the further step of
    d. drying the composition on the surface of the food product at a temperature below 70°C.

21. The method of claim 12 wherein the drying step d) is performed until the water activity (a_w) of the composition applied to the surface of the food product and/or surfaces of the food product is between 0.5 to 0.9, and/or closely matches the original water activity (a_w) of the food product before applying the composition to its surface.

22. A probiotic fortified food product as claimed in claim 1 for
    a. the improvement, treatment or prevention of an intestinal tract dysfunction or disorder, and/or conditions relating to same and/or
    b. to improve immunity, act as an anti allergenic, treat eczema, and/or aid in cholesterol lowering.