

## CLAIM(S):

1. An electrostatic spray dried powdered milk product with a surface composition comprising at least 8% less fat compared to a spray dried powder of the same milk product.
2. The electrostatic spray dried powdered milk product of claim 1, wherein about 10% or more of the surface composition comprises a carbohydrate.
3. The electrostatic spray dried powdered milk product of claim 1 or claim 2, wherein the powdered milk product is agglomerated.
4. The electrostatic spray dried powdered milk product of claim 3, wherein the agglomerate size is 100  $\mu\text{m}$  or more.
5. The electrostatic spray dried powdered milk product of any one of claims 1-4, wherein the milk product comprises milk, butter, manufacturer's cream, heavy whipping cream, whipping cream, medium cream, light cream, half and half, buttermilk, yogurt, a nutritional formulation, colostrum, whey proteins, lactoferrin, lactoglobulin, or any combination thereof.
6. The electrostatic spray dried powdered milk product of any one of claims 1-5, wherein the milk product comprises colostrum.
7. The electrostatic spray dried powdered milk product of any one of claims 1-6, wherein the milk product has a fat content of about 3-6%.
8. The powdered milk product of any one of claims 1-7, wherein the powdered milk product is electrostatically spray dried at an inlet temperature of below 150 °C.
9. The electrostatic spray dried powdered milk product of claim 8, wherein the applied voltage is about 0.1 kV or more.

10. A method of providing a powdered milk product comprising electrostatic spray drying a milk product at an inlet temperature of below 150 °C.
11. The method of claim 10, wherein the atomizing temperature is about 80 °C or below.
12. The method of claim 10 or claim 11, wherein the applied voltage is about 0.1 kV or more.
13. The method of any one of claims 10-12, wherein the applied voltage is continuous.
14. The method of any one of claims 10-13, wherein the applied voltage is modulated between two or more different voltages.
15. The method of any one of claims 10-14, wherein the applied voltage alternates charges.
16. The method of any one of claims 10-15, wherein the powdered milk product has a surface composition comprising at least 8% less fat compared to a spray dried powder of the same milk product.
17. The method of any one of claims 10-16, wherein the powdered milk product has a surface composition comprising about 10% or more of a carbohydrate.
18. The method of any one of claims 10-17, wherein the powdered milk product is agglomerated during the electrostatic spray process.
19. The method of claim 18, wherein the agglomerate size is 100 µm or more.
20. The method of any one of claims 10-19, wherein the milk product comprises cream, heavy whipping cream, whipping cream, medium cream, light cream, half and half, buttermilk, yogurt, a nutritional formulation, colostrum, whey proteins, lactoferrin, lactoglobulin, or any combination thereof.

21. The method of any one of claims 10-20, wherein the milk product comprises colostrum.

22. The method of any one of claims 10-21, wherein the milk product has a fat content of about 3-6%.