CLAIMS

1. ~~1.~~ A method for producing a concentrated ~~products using~~product by a freeze-concentration method, which comprises:

~~an~~ ice crystal generation step in which a milk component-containing fluid to be treated is cooled~~,~~ to generate ice crystals of said fluid ~~are generated~~ to be treated in said fluid to be treated, and to form a mixed fluid ~~to be treated is formed wherein said mixed fluid to be treated is comprised~~ of said ice crystals and a concentrated fluid ~~produced from~~in which said fluid to be treated is concentrated by generating said ice crystals ~~in said fluid thereby said fluid is concentrated~~; and

~~an~~ ice crystal separation step in which said mixed fluid is separated into said concentrated fluid to be treated and said ice crystals~~, and~~ by a crystal separation column to retrieve said ~~separated~~ concentrated fluid be treated ~~is retrieved.~~.

2. ~~2.~~ The method for producing a concentrated ~~products using~~ product by a freeze-concentration method ~~as defined in~~ according to Claim 1, ~~wherein said~~characterized in that a step of forming ~~said~~a mixed fluid ~~composed~~ of said ice crystals and ~~said~~a concentrated fluid ~~produced from~~in which said fluid to be treated ~~by concentrating said fluid,~~is concentrated and ~~said~~a step of separating said mixed fluid into said concentrated fluid to be treated and said ice crystals ~~and retrieving~~to retrieve said concentrated fluid ~~to~~ be treated are performed on the batch basis.

~~3.~~

3. The method for producing a concentrated ~~products using~~product by a freeze-concentration method ~~as defined in~~ according to Claim 1 or 2, ~~wherein~~characterized in that said ice crystal generation step and said ice crystal

separation step following said ice crystal generation step are repeated one time or more than one time for said concentrated fluid to be treated that has been retrieved during said ice crystal separation step.

~~4.~~

4. The method for producing concentrated products ~~using~~by a freeze-concentration method ~~as defined in~~ according to Claim 3, ~~wherein said~~ characterized in that the second or subsequent ice crystal generation step ~~following the second and subsequent time~~(s) is performed for ~~fresh~~new fluid to be treated~~, which~~ that is obtained by ~~additionally~~ adding a volume of said fluid to be treated ~~having the capacity~~ equivalent to ~~that~~the volume of said ice crystals that have been separated during said immediately preceding ice crystal separation step to said concentrated fluid to be treated that has been retrieved during said immediately preceding ice crystal separation step.

~~5.~~

5. The method for producing concentrated products ~~using~~by a freeze-concentration method ~~as defined in~~ according to any one of Claims 1 ~~through~~to 4, ~~wherein~~characterized in that said fluid to be treated is any one of raw milk, skimmed milk, fermented milk, lactic acid beverage, whey, and buttermilk.

~~6.~~

6. The method for producing concentrated products ~~using~~by a freeze-concentration method ~~as defined in~~ according to any one of Claims 1 ~~through 5, wherein as~~ to 5, characterized in that more than 70% of aromatic components are retained compared with ~~the products that are not treated, the~~untreated product.

7. The method for producing concentrated products ~~obtained by any one of production method described in Claims 1 through 5 contain the fragrance component retained to be more than 0.7 times.~~

~~7. The production method for concentrated products using~~by a freeze-concentration method ~~as defined in~~according to any one of Claims 1 ~~through 6, wherein as~~

~~compared with the products~~ to 6, characterized in that ~~are not treated, the products obtained by any one~~more than 70% of ~~production method described in Claims 1 through 6 contain the~~ live ~~bacteria of~~ useful microorganisms are retained ~~to be more than 0.7 times.~~

compared with untreated product.