CLAIMS

1. Food ~~C~~composition comprising non-replicating probiotic micro-organisms, wherein said food composition is obtainable by an extrusion cooking process comprising the steps of:
- providing probiotic microorganisms either as part of a dry mix of raw materials or as part of a wet mix that is added to a dry mix in the extrusion step,
- co-extruding the raw material and probiotic micro-organisms, thereby rendering said probiotic micro-organisms non-replicating, and
- recovering the extruded material comprising the non-replicating probiotic micro-organisms.
~~the probiotic micro-organisms were rendered non-replicating by extrusion.~~

~~2. Composition in accordance with claim 1, wherein the probiotic micro-organisms were co-extruded with the composition.~~

~~3. Composition in accordance with one of the preceding claims wherein the extrusion is selected from the group consisting of low-temperature freezing extrusion, low temperature extrusion, cold extrusion, extrusion cooking, or combinations thereof.~~

~~4. Composition in accordance with one of the preceding claims obtainable by a process comprising adding probiotic micro-organisms to a raw material by dry mixing, extruding the dry mix under water addition, and recovering the extruded material comprising the non replicating probiotic micro-organisms.~~

~~5. Composition in accordance with one of claims 1-3 obtainable by a process comprising adding a wet mix comprising water and probiotic micro-organisms during an extrusion step to a raw material in powder format, and recovering the extruded material comprising the non replicating probiotic micro-organisms.~~

~~6.~~2. ~~Composition in accordance with one of the preceding claims~~Food composition according to claim 1, comprising non replicating probiotic micro-organisms in an amount corresponding to about 10^6 to 10^{12} cfu/serving.

~~7.~~3. Food ~~C~~composition in accordance with one of the preceding claims wherein at least 90 %, preferably, at least 95 %, more preferably at least 98 %, most preferably at least 99 %, ideally at least 99.9 %, most ideally all of the probiotic micro-organisms are non-replicating.

~~8.~~4. Food ~~C~~composition in accordance with one of the preceding claims wherein the probiotic micro-organisms are selected from the group consisting of bifidobacteria, lactobacilli, propionibacteria, streptococci, lactococci, enterococci, Escherichia or combinations thereof, for example *Bifidobacterium longum*, *Bifidobacterium lactis*, *Bifidobacterium animalis*, *Bifidobacterium breve*, *Bifidobacterium infantis*, *Bifidobacterium adolescentis*, *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus paracasei*, *Lactobacillus salivarius*, *Lactobacillus reuteri*, *Lactobacillus rhamnosus*, *Lactobacillus johnsonii*, *Lactobacillus plantarum*, *Lactobacillus fermentum*, *Lactocobacillus lactis*, *Lactocobacillus helveticus*, *Streptococcus thermophilus*, *Lactococcus lactis*, *Lactococcus diacetylactis*, *Lactococcus cremoris*, *Lactobacillus bulgaricus*, *Lactobacillus helveticus*, *Lactobacillus delbrueckii*, *Escherichia coli* and/or mixtures thereof.

~~9.~~5. Food ~~C~~composition in accordance with one of the preceding claims wherein the probiotic micro-organisms are selected from the group consisting of *Bifidobacterium longum* NCC 3001, *Bifidobacterium longum* NCC 2705, *Bifidobacterium breve* NCC 2950, *Bifidobacterium lactis* NCC 2818, *Lactobacillus johnsonii* NCC533, *Lactobacillus paracasei* NCC 2461, *Lactobacillus rhamnosus* NCC 4007, *Lactobacillus reuteri*

DSM17938, *Lactobacillus reuteri* ATCC55730, *Streptococcus thermophilus* NCC 2019, *Streptococcus thermophilus* NCC

2059, *Lactobacillus casei* NCC 4006, *Lactobacillus acidophilus* NCC 3009, *Lactobacillus casei* ACA-DC 6002 (NCC 1825), *Escherichia coli* Nissle, *Lactobacillus bulgaricus* NCC 15, *Lactococcus lactis* NCC 2287, or combinations thereof.

~~10.~~6. Food ~~C~~composition in accordance with one of the preceding claims containing about 0,005 mg – 1000 mg non-replicating probiotic micro-organisms per daily dose.

~~11.~~7. Food ~~C~~composition in accordance with one of the preceding claims, wherein ~~the~~said food composition is selected from the group of food products, pet food products, cereals, nutritional compositions, nutraceuticals, food additives, nutritional supplements, ~~cosmetic compositions,~~ and/or deserts.

~~12.~~8. Food ~~C~~composition in accordance with one of the preceding claims for use in the treatment or prevention of disorders related to a compromised immune defense.

~~13.~~9. Food ~~C~~composition in accordance with claim ~~12~~8, wherein the disorder linked to a compromised immune defense is selected from the group consisting of infections, in particular bacterial, viral, fungal and/or parasite infections; for example respiratory tract infections, gastrointestinal infections; phagocyte deficiencies; low to severe immunodepression levels such as those induced by stress or immunodepressive drugs, chemotherapy or radiotherapy; natural states of less immunocompetent immune systems such as those of the neonates or elderly; allergies; inflammatory disorders; and combinations thereof.

~~14.~~10. Food ~~C~~composition in accordance with one of the preceding claims to be administered to children, elderly or pets.

~~15.~~11. Food ~~C~~composition in accordance with one of the preceding claims to be administered in the morning.

12. Process of making a food composition comprising non-replicating probiotic micro-organisms by an extrusion cooking process, said process comprising the steps of:

- providing probiotic microorganisms either as part of a dry mix of raw materials or as part of a wet mix that is added to a dry mix in the extrusion step,
- co-extruding the raw material and probiotic microorganisms by extrusion cooking, thereby rendering said probiotic micro-organisms non-replicating, and
- recovering the extruded material comprising the non-replicating probiotic micro-organisms.