CLAIMS

What is claimed is:

1. A fresh produce comprising a *Bacillus* strain colonizing a tissue of said fresh produce, wherein said *Bacillus* bacterial strain is *Bacillus coagulans*.

2. The fresh produce of claim 1, wherein at least 20% of colony forming unit (CFU) of said *Bacillus* strain colonizing said tissue of said fresh produce are in a spore form, and optionally wherein said *Bacillus* strain is a *B. coagulans* strain.

3. A fresh produce comprising a spore-forming probiotic bacterial strain, colonizing a tissue of said fresh produce, wherein at least 20% of CFU of said spore-forming bacterial strain colonizing said tissue of said fresh produce are in a spore form.

4. The fresh produce of claim 3, wherein said probiotic bacterial strain is selected from the group consisting of: *B. coagulans*, *B. subtilis*, *B. indicus*, *B. lichenformis*, *B. clausii*, and any combination thereof, and optionally wherein said *Bacillus* strain is a *B. coagulans* strain.

5. The fresh produce of any one of claims 1 to 4, wherein any one of: (i) said strain is *B. coagulans* strain being selected from: BC4, BC30, or a combination thereof; (ii) fresh produce comprising at least 1×10^5 CFU of said strain per 1 gr by weight of said fresh produce; (iii) said strain colonizes an intercellular space, an intracellular space, or both, of said tissue; (iv) said strain constitutes at least 10% of bacteria colonizing said tissue of said fresh produce; (v) said strain is probiotic to a subject consuming thereof; (vi) said strain is an exogenous endophyte of said fresh produce, and optionally wherein at least 5% of CFU of said strain survive surface disinfection of said fresh produce, thereby determined as an exogenous endophyte of said fresh produce; (vii) said fresh produce being a processed product, optionally wherein said processed product is cut, sterilized, washed, or any combination thereof, and optionally wherein said sterilized product underwent surface sterilization; (viii) said strain is exogenously applied to said fresh produce pre-harvest, post-harvest, or both; (ix) said fresh produce is selected from the group consisting of: a plant or plant material, a fungus or fungus material, and any combination thereof, and optionally wherein said plant or plant material comprises any one of: leaf, fruit, root, tuber, bulb, stem, seed, and any combination thereof; (x) said fresh produce being a leafy green; and (xi) said fresh produce being for use in prevention or treatment of dysbiosis in a subject in need thereof.

6. A kit comprising:

a. a fresh produce comprising a spore-forming bacterial strain, colonizing a tissue of said fresh produce, wherein at least 20% of CFU of said spore-forming bacterial strain colonizing said tissue of said fresh produce are in a spore form; and

b. a container configured to store said fresh produce of (a) under conditions such that at least 20% of CFU of said spore-forming bacterial strain colonizing said tissue of said fresh produce are maintained in a spore form.

7. The kit of claim 6, wherein: (i) said spore-forming bacterial strain is capable of improving health of a subject consuming thereof; (ii) said container is further configured to store said fresh produce under conditions such that said fresh produce comprising said spore-forming bacterial strain is capable of improving health of a subject consuming thereof; (iii) both (i) and (ii).

8. A method for preparing the fresh produce of any one of claims 1 to 5, the method comprising contacting a fresh produce with an effective amount of a composition comprising a spore-forming bacterial strain, thereby preparing the fresh produce.

9. The method of claim 8, wherein: (i) at least 20% of CFU of said spore-forming bacterial strain of said composition are in a spore form; (ii) said composition comprises at least one agent capable of maintaining at least 20% of CFU of said spore-forming bacterial strain of said composition in a spore form, and optionally wherein said agent is selected from the group consisting of: surfactant, pH adjuster, and a combination thereof; or (iii) both (i) and (ii).

10. The method of claim 8 or 9, wherein said contacting is pre-harvest contacting, post-harvest contacting, or both.

11. The method of any one of claims 8 to 10, wherein said contacting is post-harvest contacting, and said method further comprises a step before said contacting comprising disinfecting or sterilizing said fresh produce, and optionally wherein said sterilizing comprises sterilizing a surface of said fresh produce.

12. The method of any one of claims 8 to 11, wherein said contacting is spraying.

13. The method of any one of claims 8 to 12, wherein said composition is formulated for spraying.

14. The method of any one of claims 8 to 13, wherein said fresh produce is selected from the group consisting of: a plant or plant material, a fungus or fungus material, and any combination thereof, and optionally wherein said plant or plant material comprises any one of: leaf, fruit, root, tuber, bulb, stem, seed, and any combination thereof.

15. The fresh produce of any one of claims 8 to 14, being a leafy green.