CLAIMS:

1. A method for long term preservation of ready to eat minimally processed fruit or vegetable while retaining the nutrition properties and taste of the fresh fruit or vegetable, the method comprising the steps of:

a. providing at least: a fruit or vegetable, a sterilized seal-able package and a carbonated liquid, wherein the carbonated liquid has substantially the same pH value and same dissolved matter content as the minimally processed fruit or vegetable, comprises dissolved carbon dioxide in an amount of at least 4 g/l ,and the carbon dioxide is applied at a pressure of at least 3bar for a sufficient time to reach the required saturation level;
g. processing the fruit or vegetable by at least washing and disinfecting the exterior of the fruit or vegetable;
k. placing the processed fruit or vegetable into the sterilized seal-able package;
l. filling the remaining volume of the seal-able package with the carbonated liquid;
m. sealing the seal-able package; and
n. storing the sealed package at a storage temperature of between 1°C to 40°C,
wherein steps g, k, l and m are performed under a disinfected processing environment.

2. The method as claimed in claim 1, wherein in step g, the washing and disinfecting of the exterior of the fruit or vegetable is made with a chilled disinfecting solution comprising water and an oxidizing agent.

3. The method as claimed in claim 2, wherein the oxidizing agent is ozone in an aqueous ozone solution at a concentration of less than 5.0PPM.

4. The method as claimed in claim 2, wherein the oxidizing agent is ozone in an aqueous ozone solution at a concentration of between 0.5PPM to 2.0PPM and wherein the aqueous ozone solution is applied for a duration of between 0.25 to 6 minutes.

5. The method as claimed in claim 2, wherein the disinfecting solution is chilled to between 2ºC and 4ºC.

6. The method as claimed in claim 2, further comprising after step g, the step of:
h. removing the disinfecting solution from the minimally processed fruit or vegetable with forced clean air filtered through a HEPA filter of at least H13 HEPA class.

7. The method as claimed in claim 1, further comprising after step a, the step of:
c. prewashing and disinfecting the exterior of the fruit or vegetable with a chilled disinfecting solution comprising water and an oxidizing agent.

8. The method as claimed in claim 7, further comprising after step c, the step of:
d. removing the disinfecting solution from the fruit or vegetable with forced air.

9. The method as claimed in claim 8, further comprising after step d, the step of:
e. keeping the minimally processed fruit or vegetable which are not directly packaged, in a cooled, dry, well-ventilated storage, out of direct sunlight.

10. The method as claimed in claim 1, further comprising after step a, the step of:
f. processing the fruit or vegetable by physically altering the fruit or vegetable from its whole state in order to obtain a fully edible product.

11. The method as claimed in claim 10, wherein the processing of the fruit or vegetable is made by one or more process selected from the group consisting of: opening, pealing, trimming, cutting, slicing, chopping, dicing, ricing, shredding, deseeding, separating, extracting and tearing.

12. The method as claimed in claim 10, wherein the processing of the fruit or vegetable is made in a clean processing area entirely and continuously kept under disinfecting environment, the environment comprising ozone gas at a concentration of between 30 to 200 PPM.

13. The method as claimed in claim 12, wherein in step f, a one or more processing tool or cutting knife used in the process is intermittently disinfected by aqueous ozone solution with concentration of between 1PPM to 2 PPM.

14. The method as claimed in claim 1, wherein the carbonated liquid is a fresh squeezed fruit or vegetable Juice.

15. The method as claimed in claim 1, wherein the carbonated liquid is a fresh squeezed fruit or vegetable Juice, made of the same type of fruit or vegetable as the minimally processed fruit or vegetable.

16. The method as claimed in claim 15, further comprising after step g, the steps of:
i. squeezing a portion of the minimally processed fruit or vegetable to fresh juice, without addition of preservatives; and
j. carbonizing the fresh squeezed fruit or vegetable juice with CO_2 serving as a preservation enhancer.

17. The method as claimed in claim 16, wherein the carbonation of the juice is performed by dissolving Carbon dioxide in the juice at pressure between 6 bar and 8 bar for a sufficient time to reach saturation, with the temperature of the juice being between 1°C to 10°C.

18. The method as claimed in claim 1, wherein the sterilized seal-able package is a glass or plastic bottle provided with a positive pressure holding hermetic cap.

19. The method as claimed in claim 1, wherein the storage temperature of the filled and sealed package is between 1°C to 12°C.

20. The method as claimed in claim 1, wherein the fruit or vegetable for processing are chosen during harvesting to include undamaged fruit or vegetable.

21. The method as claimed in claim 15, wherein the minimally processed fruit or vegetable are pomegranate seeds extracted from a pomegranate and the Juice is a pomegranate juice.

22 A system for long term preservation of ready to eat minimally processed fruit or vegetable while retaining the nutrition properties and taste of the fresh fruit or vegetable, the system comprising:

a) a conveyor provided with a washable transport surface, the transport surface comprising perforations smaller than the minimally processed fruit or vegetable;
b) a longitudinal shield surrounding the conveyor along a processing area, configured to prevent external contamination and enclose an over pressure disinfecting environment in the processing area;
c) a loading zone located adjacent a first end of the conveyor out of the processing area;
d) a first disinfection zone located along the conveyor within the processing area, the first disinfection zone comprising a plurality of emitters of a disinfectant solution;
e) a package filling zone for minimally processed fruit or vegetable, located in the processing area after the first disinfection zone;
f) a liquid filling zone located in the processing area after the package filling zone;
g) a sealing zone located in the processing area after the liquid filling zone;
wherein the conveyor speed is set to maintain the minimally processed fruit or vegetable at least 15 seconds within the disinfection zone, the temperature in the processing area is set between 1°C and 40°C, the disinfectant solution is thoroughly wetting the minimally processed fruit or vegetable, and the liquid used in the liquid filling zone is a carbonated liquid, having substantially the same pH value and same dissolved matter content as the minimally processed fruit or vegetable, comprises dissolved carbon dioxide in an amount of at least 4 g/l, wherein the carbon dioxide is applied at a pressure of at least 3 bar for a sufficient time to reach the required

saturation level.

23. The system as claimed in claim 22 further comprising:

h) a first disinfectant removal zone located in the processing area after the first disinfection zone and before the package filling zone, the disinfectant removal is performed by forced filtered air, filtered through a HEPA filters of at least H13 HEPA class.

24. The system as claimed in claim 22 further comprising:

i) a second disinfection zone located along the conveyor out of the processing area, after the loading zone, the second disinfection zone comprising a plurality of emitters of a disinfectant solution;

j) a minimal processing zone located in the processing area after the second disinfection zone;

25. The system as claimed in claim 24 further comprising:

k) a second disinfectant removal zone located out of the processing area after the second disinfection zone and before the minimal processing zone.

26. The system as claimed in claim 24 wherein the minimal processing zone comprises tools configured to perform one or more of the processes selected from the group consisting of: opening, pealing, trimming, cutting, slicing, chopping, dicing, ricing, shredding, deseeding, separating, extracting and tearing.

27. The system as claimed in claim 22 wherein the wetting of the minimally processed fruit or vegetable with disinfectant solution, uses a low impact technique to avoid textural damage of the fruit or vegetable.

28. The system as claimed in claim 27 wherein the low impact wetting technique is selected from the group consisting of: dripping, soft spray and liquid curtain.

29. The system as claimed in claim 22 wherein the disinfectant solution comprises water and an oxidizing agent selected from the group consisting of: Hypochlorite, Hydrogen-peroxide and ozone.

30. The system as claimed in claim 29 wherein the concentration of the oxidizing agent in the air after emission is less than 200PPM.

31. The system as claimed in claim 29 wherein the oxidizing agent is ozone with a concentration of less than 5PPM in the aqueous ozone solution.

32. The system as claimed in claim 31 wherein the concentration of ozone in the air after emission is between 30 to 200PPM.

33. The system as claimed in claim 22, further comprising:

l) a pressure vessel for carbonizing the carbonated liquid.

34. The system as claimed in claim 33, further comprising:

m) a squeezer to squeeze a portion of the processed fruit or vegetable into a juice, the juice is fed into the pressure vessel and carbonated to serve as the carbonated liquid.

35. The system as claimed in claim 34, further comprising:

n) a transport means to feed a portion of the processed fruit or vegetable into the squeezer.