CLAIMS

1. A method of producing a product for waste degradation, comprising:

isolating a plurality of microbial strains from one or more sources of food waste as separate colonies on a solid medium;

selecting a plurality of the isolated microbial strains based on size and/or abundance of colonies of each of the microbial strains, wherein the selected microbial strains are selected based on having a larger colony size and/or a higher colony abundance compared to other microbial strains; and

combining the selected microbial strains to produce a microbial consortium for waste degradation.

2. The method according to claim 1, wherein the colonies of each of the microbial strains are differentiated based on size, shape and colour.

3. The method according to claim 1 or 2, further comprising assessing food degradation of microbial consortia comprising the combined microbial strains.

4. The method according to any one of the preceding claims, wherein the selected microbial strains are selected from a group consisting of *Candida* sp., *Pediococcus* sp. and *Enterobacter cloacae*.

5. The method of claim 4, wherein the group consists of *Candida glabrata* DSMZ 32770, *Pediococcus* sp. DSMZ 32729, *Enterobacter cloacae* DSMZ 32739 and *Enterobacter* sp. DSMZ 32730.

6. The method according to any one of the preceding claims, further comprising culturing each of the selected microbial strains before combining the selected microbial strains.

7. The method according to claim 6, wherein each of the selected microbial strains is cultured at a temperature of between about 30 degrees Celsius (°C) and about 70 °C.

8. The method according to claim 6 or 7, wherein the step of combining the selected microbial strains comprises inoculating the cultured microbial strains into a culture medium.

9. The method according to any one of the preceding claims, further comprising immobilizing the microbial consortium on a carrier.

10. The method according to claim 9, wherein the carrier is sawdust, spent grains or derived from empty fruit bunch of oil palm.

11. A product for waste degradation, comprising:

a microbial consortium comprising a combination of microbial strains isolated from one or more sources of food waste as separate colonies on a solid medium and selected based on size and/or abundance of colonies of each of the microbial strains, wherein the selected microbial strains are selected based on having a larger colony size and/or a higher colony abundance compared to other microbial strains.

12. The product for waste degradation according to claim 11, wherein the colonies of each of the microbial strains are differentiated based on size, shape and colour.

13. The product for waste degradation according to claim 11 or 12, wherein the microbial strains are selected from a group consisting of *Candida* sp., *Pediococcus* sp. and *Enterobacter cloacae*.

14. The product for waste degradation according to claim 13, wherein the group consists of *Candida glabrata* DSMZ 32770, *Pediococcus* sp. DSMZ 32729, *Enterobacter cloacae* DSMZ 32739 and *Enterobacter* sp. DSMZ 32730.

15. The product for waste degradation according to any one of claims 11 to 14, further comprising a carrier, wherein the microbial consortium is immobilized on the carrier.

16. The product for waste degradation according to claim 15, wherein the carrier is sawdust, spent grains or derived from empty fruit bunch of oil palm.

17. An isolated microbial strain for use in waste degradation selected from a group consisting of *Candida* sp., *Pediococcus* sp. and Enterobacter cloacae, wherein the group consists of *Candida glabrata* DSMZ 32770, *Pediococcus* sp. DSMZ 32729, *Enterobacter cloacae* DSMZ 32739 and *Enterobacter* sp. DSMZ 32730.

18. A substantially pure culture of the isolated microbial strain according to claim 17 for use in waste degradation.

19. The substantially pure culture of the isolated microbial strain according to claim 18 immobilized with a solid medium.

20. The substantially pure culture of the isolated microbial strain according to claim 19, wherein the solid medium is sawdust, spent grains or derived from empty fruit bunch of oil palm.

21. A microbial consortium or a mixed microbial composition comprising two or more microbial strains selected from a group consisting of *Candida* sp., *Pediococcus* sp. and *Enterobacter cloacae*, wherein the group consists of

Candida glabrata DSMZ 32770, *Pediococcus* sp. DSMZ 32729, *Enterobacter cloacae* DSMZ 32739 and *Enterobacter* sp. DSMZ 32730.

22. The microbial consortium or the mixed microbial composition according to claim 21 immobilized with a solid medium.

23. The microbial consortium or the mixed microbial composition according to claim 22, wherein the solid medium is sawdust, spent grains or derived from empty fruit bunch of oil palm.

24. A waste degradation method, comprising:

providing one of the product for waste degradation according to any one of claims 11 to 16, the isolated microbial strain according to claim 17, the substantially pure culture of the isolated microbial strain according to any one of claims 18 to 20 and the microbial consortium or the mixed microbial composition according to any one of claims 21 to 23;

mixing the one of the product for waste degradation, the isolated microbial strain, the substantially pure culture of the isolated microbial strain or the microbial consortium or the mixed microbial composition with waste; and

biodegrading the waste with the one of the product for waste degradation, the isolated microbial strain, the substantially pure culture of the isolated microbial strain or the microbial consortium or the mixed microbial composition.

25. The waste degradation method according to claim 24, wherein the waste is biodegraded at a temperature of between about 30 degrees Celsius (°C) and about 50 °C.

26. The waste degradation method according to claim 24 or 25, wherein the product for waste degradation is provided and wherein the product for waste degradation and the waste are provided in a mass ratio of about 1:1.