Patent claims:

1. A system (10) for producing baked plant-based foods (1), particularly baked potato chips, the system (10) comprising at least one pre-drying section (20) for pre-drying provided plant-based foods (1), in particular potato slices, and at least one baking section (40) for baking the pre-dried plant-based foods (1),
   wherein the pre-drying section (20) comprises a bottom (21) for receiving the plant-based foods (1), wherein the bottom (21) is configured to be set in vibration, and wherein the pre-drying section (20) comprises an energy supply unit (23) for pre-drying the plant-based foods (1) by supplying energy to the plant-based foods (1).

2. The system (10) according to claim 1, wherein the energy supply unit (23) is configured to generate a hot fluid stream (24), particularly a hot gas stream, more particularly a hot air stream, such that the plant-based foods (1) can be pre-dried by the hot fluid stream (24).

3. The system (10) according to claim 2, wherein the hot fluid stream (24) is directed through said outflow bottom (22).

4. The system (10) according to any one of the preceding claims, wherein the pre-drying section (20) further comprises a plurality of conveying sections (25) separated from one another along a conveying direction extending through the pre-drying section (20), such that the plant-based foods (1) are separable in volumes defined by the conveying sections (25).

5. The system (10) according to claim 4, wherein the pre-drying section (20) further comprises a conveying unit (26) with a plurality of carriers (27) for separating the conveying sections (25) so that the plant-based foods (1) separated in the conveying sections (25) can be conveyed through the pre-drying section (20) under a movement of the carriers (27) along the conveying direction.

6. The system (10) of claim 5, wherein the conveying unit (26) comprises a circumferential conveyor chain (28), wherein the carriers (27) protrude away from the conveyor chain (28) so as to form the conveying sections (25).

7. The system (10) according to any one of the preceding claims, further comprising a centrifugation unit (60) configured to at least partially dewater the plant-based foods (1) by means of centrifugation.

8. The system (10) according to claim 7, further comprising an additive unit configured to add additives such as oil to the plant-based foods 1 upon centrifugation in the centrifugation unit.

9. A method for producing baked plant-based foods (1), particularly baked potato chips, wherein the plant-based foods (1) are received by a bottom (21) of at least one pre-drying section (20) and pre-dried by energy supplied by an energy supply unit (23) under vibration of the bottom (21), and wherein the pre-dried plant-based foods (1) are baked in at least one baking section (40).

10. The method according to claim 9 , wherein a pre-drying temperature in the range between 140°C to 250°C, particularly between 170°C and 220°C, is set by the energy supply unit (23) in the pre-drying section (20).

11. The method according to claim 9 or 10 , wherein the pre-drying is such that the pre-dried foods comprise a moisture content between 5% and 25%, particularly between 10% and 20% and/or wherein a baking temperature in the range between 120°C to 150°C, particularly between 130°C and 140°C, is set by the energy supply unit (23) or by a further energy supply unit (23a) in the baking section (40).

12. The method according to any one of the claims 9 to 11, wherein the baking is such that the baked plant-based foods comprise a moisture content of less than 2.5% or equal to 2.5%.

13. The method according to any one of the claims 9 to 12, wherein the plant-based foods are at least partially dewatered by means of centrifugation prior to the pre-drying in the pre-drying section (20).

14. A vibration oven (50), wherein the vibration oven (50) comprises:
    - a bottom (21) configured to receive plant-based foods (1) and to be set in vibration,
    - an energy supply unit (23) for supplying energy to the plant-based foods (1) for pre-drying and/or baking the plant-based foods (1) and

- a plurality of conveying sections (25) separated from one another, such that the plant-based foods (1) are separable in volumes defined by the conveying sections (25).

15. The vibration oven (50) according to claim 14, further comprising a conveying unit (26) with a plurality of carriers (27) for forming and/or separating the chambers (29), so that the plant-based foods (1) separated in the conveying sections (29) can be conveyed under a movement of the carriers (27) along a conveying direction through the vibration oven (50).