CLAIMS

1. A debittered chickpea protein concentrate comprising a protein content of more than 70% by weight of total dry matter.

2. The chickpea protein concentrate of claim 1, wherein the protein concentrate comprises a protein content of more than 80% by weight of total dry matter.

3. The chickpea protein concentrate of any one of claims 1 or 2, wherein said protein concentrate comprises less than 1% phytic acid.

4. The chickpea protein concentrate of any one of claims 1 to 3, wherein the protein concentrate comprises less than 0.8 mg/g saponins.

5. The chickpea protein concentrate of any one of claims 1 to 4, wherein the chickpea protein concentrate comprises less than 25% fat.

6. The chickpea protein concentrate of any one of claims 1 to 5, said chickpea protein concentrate is manufactured by a method comprising a step of debittering chickpea material.

7. The chickpea protein concentrate of claim 6, wherein the debittering step comprises mixing the material with fumaric acid.

8. The chickpea protein concentrate of any one of claims 6 or 7, wherein the method is carried out at a temperature of no greater than 25°C, preferably at a temperature no greater than 15°C.

9. The chickpea protein concentrate of any one of claims 6 to 8, wherein the method comprises a step of alkalization to a pH value of between 8 and 10.

10. A method for manufacturing a debittered chickpea protein concentrate, the method comprising the steps of: (i) providing a water suspension of chickpea material; (ii) debittering the chickpea material; and (iii) extracting the proteins from the product of step (ii).

11. The method of claim 10, wherein step (ii) comprises mixing the material with fumaric acid.

12. The method of any one of claims 10 or 11, wherein step (iii) comprises subjecting the product of step (ii) to alkaline conditions.

13. The method of any one of claims 10 to 12, wherein the material is chickpea flour.

14. The method of any one of claims 10 to 13, wherein step (ii) comprises mixing fumaric acid to a final concentration of between 0.2% and 1% fumaric acid.

15. The method of any one of claims 10 to 14, wherein step (ii) comprises acidification to about pH 4.5.

16. The method of any one of claims 10 to 15, wherein step (iii) comprises alkalization to a pH value of between 7.5 and 10.

17. The method of any one of claims 10 to 16, said method further comprises a step of concentrating proteins by a process selected from the group consisting of: membrane distillation, nanofiltration, ultrafiltration, diafiltration, and evaporation.

18. The method of any one of claims 10 to 17, wherein the debittering step is followed by a step of separating a protein precipitate that was generated in step (ii) from the water suspension.

19. The method of claim 18, wherein the separated material is subjected to protein extraction.

20. A method for manufacturing a legume protein concentrate, the method comprising the steps of: (i) providing a water suspension of legume material; (ii) debittering the material by mixing with fumaric acid; and (iii) extracting the proteins from the product of step (ii).

21. The method of claim 20, wherein the legume is selected from the group consisting of beans, lentils and combination thereof.

22. The method of claim 20, wherein the legume is selected from the group consisting of: chickpea, pea, white bean, lentil, peanut, alfalfa, soybean, lupine, cowpea, pigeon pea, black bean, red bean, kidney bean, fava bean and any combination thereof.

23. The method of any one of claims 20 to 22, wherein step (iii) comprises subjecting the product of step (ii) to alkaline conditions.

24. The method of any one of claims 20 to 23, wherein the material is legume flour.

25. The method of any one of claims 20 to 24, wherein step (ii) comprises mixing fumaric acid to a final concentration of between 0.2% and 1% fumaric acid.

26. The method of any one of claims 20 to 25, wherein step (ii) comprises acidification to about pH 4.5.

27. The method of any one of claims 20 to 26, wherein step (iii) comprises alkalization to a pH value of between 7.5 and 10.

28. The method of any one of claims 20 to 27, said method further comprises a protein concentration process selected from the group consisting of: membrane distillation, nanofiltration, and evaporation.

29. The method of any one of claims 20 to 28, wherein the debittering step is followed by a step of separating a precipitate generated in step (ii) from the water suspension.

30. The method of claim 29, wherein the separated material is subjected to protein extraction.