THE CLAIMED INVENTION IS:

1. A method of preparing a pea protein hydrolysate, comprising:

obtaining a pea protein composition;

adding a fungal enzyme which is a protease derived from *Aspergillus oryzae* to the pea protein composition at a ratio from 0.05:100 to 5:100 by weight of protease enzyme to pea protein;

hydrolyzing the pea protein composition at a pH ranging from 5 to 7.5 and at a temperature ranging from 30 ºC to 60 ºC, to obtain a pea protein hydrolysate with a degree of hydrolysis ranging from 16% to 25%,

wherein the pea protein hydrolysate has a solubility of at least 30% at pH 3.4, a viscosity of at least 65 at pH 3.4, a dispersibility of at least 115 at about neutral pH, and/or a suspendability of at least 1.5 at pH 3.4.

2. The method of claim 1 wherein the pea protein composition comprises a native pea protein.

3. The method of claim 1 wherein the pea protein composition comprises a modified pea protein, which has been heat treated to achieve a targeted functionality.

4. The method of any of claims 1-3 wherein the ratio is from 0.5:100 to 5:100 enzyme to pea protein.

5. The method of any of claims 1-3 wherein the ratio is about 1:100 enzyme to pea protein.

6. The method of any of claims 1-5 wherein the pea protein composition comprises at least 80wt% pea protein.

7. The method of any of claims 1-6 wherein the pea protein hydrolysate has a solubility of at least 55% at pH 3.4.

8. The method of any of claims 1-6 wherein the pea protein hydrolysate has a solubility of at least 60% at pH 3.4.

9. The method of any of claims 1-6 wherein the pea protein hydrolysate has a solubility of at least 65% at pH 3.4.

10. The method of any of claims 1-9 wherein the fungal enzyme is Protease M Amano SD.

11. The method of any of claims 1-9 wherein the protease enzyme has an activity described by 200 azocasein-degrading units, 53 casein-derived A280-releasing units, 17 casein-derived alpha amine-releasing units, 0.54 glycine nitroanilide hydrolyzing units, 10,400 leucine nitroanilide hydrolyzing units, 1280 lysine nitroanilide hydrolyzing units, 91 methionine nitroanilide hydrolyzing units, 2.3 benzolyarginine nitroanilide hydrolyzing untis or 36 benzoyl tyrosine nitroanilide hydrolyzing units.

12. The method of any of claims 1-11 wherein the hydrolyzing temperature is between 40 ºC and 50 ºC.

13. The method of any of claims 1-12 wherein the hydrolyzing pH is between 5.5 and 6.5.

14. The method of any of claims 1-13 wherein a time for hydrolyzing the pea protein composition is between 30 minutes and 70 minutes.