NUTRITIONAL COMPOSITIONS FROM PLANT-BASED PROTEINS AND METHODS FOR MAKING THE SAME

Field

[0001] Disclosed herein are methods for preparing protein composition from plant-based sources that have improved taste, smell, and digestibility.

BACKGROUND

Description of the Related Art

[0002] Plant-based protein powders can be a convenient way to add protein to a diet or supplement athletes with increased protein needs. Plant based protein powders are often made from pea, soy, hemp, sunflower, pumpkin, rice, or other plant sources. Such proteins can be particularly beneficial for those who wish to maintain a vegetarian or vegan diet. Plant based proteins have an amino acid score that is less than other more common proteins, but because of its unique profile, can serve as a better protein in certain applications. For instance, because of the high leucine content, such proteins can be used as a bread additive. Leucine can enhance bread aroma when cooking, etc.

[0003] Some plant proteins may have an unpleasant taste and smell. For example, pea protein outperforms many other protein sources in nutrition terms; however masking its flavor and aroma is a challenge. Some approaches to increase the palatability of pea protein include the addition of sweeteners and flavors and/or combining pea protein with other plant protein sources. Accordingly, a need exists for methods of making plant-based protein compositions having improved smell and taste.

SUMMARY

[0003a] In one aspect, provided herein is method of preparing a pea protein composition, the method comprising the steps of: (a) adding pea protein and a solvent to a first vessel to form a first mixture, wherein the concentration of pea protein in the first mixture is from about 8% to about 20% (w/w); (b) adding an oxidizing agent to the first mixture to form a second mixture, wherein the concentration of the oxidizing agent in the second mixture is greater than 0.05% and less than 0.5% (w/w); (c) heating the second

mixture to a temperature of from about 130 °F to about 200 °F for a period of from about 2 minutes to about 20 minutes; and (d) isolating purified pea protein from the second mixture.

[0003b] In another aspect, provided herein is a pea protein composition prepared by the method as described herein.

[0004] In some embodiments, provided herein is a method of preparing a protein composition, the method comprising the steps of: (a) adding protein and a solvent to a first vessel form a first mixture; (b) adding an oxidizing agent to the first mixture to form a second mixture; and (c) isolating purified protein from the second mixture. In some embodiments, the concentration of the oxidizing agent in the second mixture is from about 0.05% to about 0.5% (w/w).