

[54] **SOYBEAN FRACTIONATION EMPLOYING A PROTEASE**

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[57] **ABSTRACT**

Process of separating nutritional components from soybeans or other oilseeds, employing enzymatic hydrolysis of protein. Clean, whole soybeans are comminuted, heated at about 90°-140° C., and then cooled by adding more water. A proteolytic enzyme, preferably derived from an *Aspergillus* or *Bacillus* sp., is added to the slurry, which is then maintained at an incubation temperature of 25°-75° C. until the protein is sufficiently hydrolyzed. The fibrous solids portion is then removed from the slurry, being useful as a livestock feed supplement. The oil phase may then be removed from the fluid portion of the slurry, as by separating an aqueous phase from an oil-containing phase in a cream separator. The aqueous phase is then acidified to about pH 4.5, to precipitate isoelectric protein, which may be recovered, e.g., by centrifugation. To obtain the main product of this process, soy protein hydrolysate, the remaining aqueous phase is desirably concentrated by conventional evaporation techniques, adjusted to substantially neutral pH, and then dried, e.g., by spray drying or lyophilization. Alternatively, the aqueous phase containing protein and/or protein hydrolysate may be employed as the basis of a nutritious beverage.

13 Claims, 1 Drawing Figure

