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PROCESS FOR THE PRODUCTION OF GLUTEN POWDER

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It is already known that the baking properties of flour may be considerably improved when there is added wet gluten or other improvement means to the dough made of the flour. Wet gluten is for instance produced by washing the starch out of wheat flour, and there is thus produced an elastic gluten mass that contains about 60% of water. Such a gluten mass may be kneaded to a dough. If the dough is made of flour of a soft wheat, by which is meant a wheat having a small content of protein, the addition of gluten will improve the dough in such a manner that it will bake as though it were made of a hard wheat, that is a wheat having a high content of protein (gluten).

Gluten mass containing as much as 60% of water is, however, not durable. It has been found difficult to find a useful employment in baking of that gluten which is produced as a by-product of wheat starch. It has been proposed to dry gluten disposed upon trays or within drums by means of either a current of hot air or a vacuum, but the gluten powder obtained in this manner after mixing it with water will not provide a gluten possessing the same good baking properties as the original wet gluten.

The object of the present invention is to produce a gluten powder that possesses highly improved baking properties, and this is obtained by dissolving or emulsifying wet gluten produced in known manner, in an aqueous solution that has a suitable concentration of hydrogen-ion (pH ranging between 3 and 7), to the effect that the gluten undergoes an alteration from being an elastic mass to become a cream-like mass, and in strong concentrations a paste-like mass. The mass produced may be spread in a thin layer on a tray or within a drum, and may subsequently be atomized in such a manner that the drying process may be carried out without injuring the original properties of the gluten. The thus uninjured powder produced will after being mixed with water provide a wet gluten that is just as elastic as the original gluten.

In order to obtain a good powder it is necessary that only a small portion of the solvent remains in the powder. In view hereof it has been found advantageous to employ a volatile acid, for instance a solution of acetic acid, as solvent. Solutions of 1/10 to 1/100 n produce excellent powders, particularly when the gluten solution (the emulsion) is atomized in hot air. A fully satisfactory powder may be obtained when the gluten solution is homogenized by being passed through an ordinary separator of known construction, or by being passed through a tube provided with a rapidly rotating and perforated worm.

The powder produced in accordance with the above described methods possesses highly improved baking properties, and accordingly it may be employed with advantage as an addition to flour. It may likewise be employed in the production of plastic masses, solutions that are to be spun, and the like.

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