

EXTRUDER TEXTURIZED WHEY PROTEINS FOR USE IN REDUCED CARBOHYDRATE FOODS

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Americans consume an average of 30 lbs. of cheese per person a year, about 9 billion lbs. Five billion lbs. of dried whey proteins, the co-products of cheese manufacture are produced, but less than 50% of the cheese whey proteins are utilized for food manufacturing. The rest is wasted or used as animal feed. The nominee realized that these underutilized proteins could be used for many functional applications in foods, such as, in snack products, where the cheese whey proteins would boost the protein content of the snack products. Snack foods are a major dietary component for many U.S. consumers. Many crunchy favorites are made from high-starch products such as corn flour. On average, these products consist of 3-5 % protein, with the remainder of ingredients comprising mostly carbohydrates, fats, and sweeteners. High carbohydrate snacks are partly blamed for rising obesity. The nominee developed an extrusion process that changes the structure and texture of whey proteins making them easier to add to foods while still retaining its crunchy properties. The newly developed texturized whey proteins can be used to increase the protein in foods such as breakfast cereals, corn puffs, cheese curls, and energy bars by up to 35 %. Several high protein snacks targeted to help fight obesity developed through a Cooperative Research and Development Agreement with Harden Foods, Inc., a minority-owned company in Philadelphia, PA, are ready for market. Using this ARS patent-pending texturization technology, Harden Foods Inc. has successfully produced market-ready snack products with reduced amounts of carbohydrates. Harden Foods Inc. and several large companies have submitted applications to license this technology

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