

MANILDRA PROTEINS





ABOUT MANILDRA GROUP

First established in 1952 with the purchase of a single flour mill, the Manildra Group of companies has since undergone steady growth. The company is now the largest user of wheat for industrial purposes in Australia, processing over 1 million tonnes of wheat per annum. Manildra Group is proud to remain an Australian, privately owned company.

WHEAT PROTEINS

Manildra Group operates two starch and gluten plants located at:

- Nowra, New South Wales, Australia
- Hamburg, Iowa, United States

The Nowra and Hamburg plants use commercial wheat flour as the source material for separating and recovering the major constituents of starch and gluten (protein). These are then manufactured as a range of products. Principally, gluten is sold as Vital Wheat Gluten (75% protein) for bakery applications.

Additional processing allows the manufacture of vital wheat gluten products with protein contents of 80% and 90% protein having particular physical properties and an advantage as an ingredient for nutritional improvement of foods.

GEMPRO products are manufactured as enzyme-modified wheat gluten products for functional and nutritional benefits as food ingredients.

NUTRITIONAL BENEFIT FROM WHEAT PROTEIN

Wheat gluten is unique in its functional properties that are the direct consequence of its amino acid composition and protein structure. Modern understanding of the complementary nature of proteins from different sources in a mixed diet, positions wheat protein as a significant contributor to human nutrition.

In health and well-being

Recent studies of health and well-being particularly in relation to food consumption and obesity have indicated the value of food proteins as they have the effect of increasing feelings of satiety and reducing the desire to consume as much food.

The increase in Type 2 diabetes and coronary disease has indicated the need for foods containing less fat and with ingredients of lower GI. Both protein and fibre may be alternative ingredients but for palatability and acceptability, more protein may be preferred.

In physical stress

Recent nutritional studies have shown that the amino acid, glutamine, may be in particular demand following physical stress. Wheat protein is by far the richest natural source of glutamine

GEMPRO products have been developed to enable substantial quantities of wheat protein to be consumed in a range of foods.

GEMPRO products have been developed with a range of functional properties allowing them to deliver nutritional benefit in a variety of food types.

GEMPRO Products: Glutamine-Rich Protein - metabolism and nutritional advantage

FAST ACTION FOOD

Rapid amino acid absorption

MAINTAINS WELL-BEING

Recovery of hormone balance

>32% GLUTAMINE

Glutamine-Rich-Protein

>12.5% BCAA

PROLONGS ENERGY

Accelerated muscle recovery

OVERCOMES TIREDNESS

Accelerated fatigue recovery

Proteins for Dairy, Nutrition, General Food and Bakery Applications

GEMPRO GP FOR PROTEIN-RICH SOUPS, BEVERAGES AND DAIRY-TYPE FOODS

GEMPRO GP is a substantially solubilised form of wheat gluten. Specific enzyme modification (non-GM) of the protein is used to retain a light colour, minimise the slight cereal-flavour and provide functional properties that allow it to be used in liquid foods.

GEMPRO GP may be used to replace skim milk powder, milk protein concentrate or whey protein concentrate providing functional and nutritious protein without the lactose.

GEMPRO GP may be used to replace soy protein concentrate, soy protein isolate or other vegetable protein products with a more palatable and acceptable flavour.

GEMPRO LH FOR PROTEIN-RICH BAKERY FOODS, SNACK FOODS AND CEREAL FOODS

GEMPRO LH is a selectively-modified wheat gluten in which enzyme treatment has changed the properties to being weakly cohesive so that it can be used to replace starch, particularly in extruded foods.

GEMPRO LH can be used at contents up to 40% protein in puffed snack and breakfast-cereal foods. This product behaves like starch when using extrusion for puffing in manufacturing. **GEMPRO LH** melts at the same temperature as starch allowing direct replacement of starch in the puffing process without generating cooked flavour and colour.

In food products such as tortillas and tacos, corn chips and

potato chips, **GEMPRO LH** may be used at up to 25% protein and may provide cohesion in the manufacturing process. **GEMPRO LH** may provide a pleasant cereal flavour without additional colour. In fried foods, inclusion of **GEMPRO LH** may reduce the amount of fat absorbed.

GEMPRO HiQ FOR SPORTS AND HEALTH FOODS

GEMPRO HiQ is a fully soluble wheat protein ingredient produced by selective enzyme modification of wheat gluten. Production is controlled to maximise the content of glutamine-peptides and provide a protein content of more than 90%, with reduction in fat and carbohydrate content. **GEMPRO HiQ** is readily dispersed in water and gives an almost clear, pale yellow solution.

GEMPRO HiQ may be used as a nutritional ingredient in sports and health beverages in which it may provide particular amino acids as required for the particular sports or health benefit. Stable peptide-bound glutamine allows target glutamine contents to be achieved more cheaply and palatably than with chemically prepared L-glutamine or glutamine dipeptides. Abundant Branched Chain Amino Acids (BCAA) also enables accelerated recovery from fatigue

GEMPRO HiQ may be used as a nutritional and functional ingredient in sports and health food bars. In high solids ingredient mixes, **GEMPRO HiQ** may assist in holding water which may help to provide chewiness and improved palatability when compared to the use of other protein-rich ingredients.



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