Process Equipment
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PROCESS BULLETIN

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Subject: **Quark cheese high pressure homogenisation**

Quark (or quarg) is a fresh unripened cheese prepared in a fashion similar to cottage cheese. As with other fresh cheeses, the first step in the creation of quark is pasteurization of the milk. Fresh cheeses are consumed without aging and so milk used must be pasteurized to ensure the safety of the cheese. Once the cheesemilk is prepared, starter culture is added to generate lactic acid from lactose. Acidification occurs until the pH is lowered to 4.6, which causes precipitation of the casein proteins. A very small amount of rennet is included with the cheese-milk and it functions to make the curd firmer. Unlike cottage cheese, the quark coagulum is not cut or cooked. The curd is simply broken by agitation and homogenisation and whey is removed by bag drainage or by centrifugal force in a mechanical curd concentrator. The product is then it may be salted. The resulting texture of the quark cheese is very smooth, unlike cottage cheese, which consists of distinct curds. Quark cheese is used as an ingredient to add sensory appeal, mild flavour, and nutritional value to foods. Quark is a fresh cheese with a smooth texture, a mild, slightly sour flavour and a white colour. Quark cheese can be prepared from skim milk, partially skim milk or whole milk. When the Quark cheese is made with fat, the fat contributes to the flavour and smoothness of the cheese. Quark cheese has a fairly short shelf life due to its relatively high moisture content. Since the curd is not washed (as in cottage cheese manufacture), quark cheese has a relatively high lactose content.

Typical composition of skim milk quark cheese

Moisture	82 %
Protein	12 %
Fat	0,2 %
Carbohydrate	3 %
Ash	1 %

Cheese is of high nutritional value due to its high concentration of proteins. Casein contains various levels of all the essential amino acids although it is relatively low in sulfur containing amino acids. As a result the protein quality of cheese is slightly less than that of milk, which retains the sulfur rich whey proteins. In terms of microbiological standards, all cheeses made from pasteurized milk must contain fewer than 100 Escherichia Coli per gram and fewer than 100 Staphylococcus aureus per gram. (Canadian milk commission - www.milkingredients.ca)