

Dairy analysis

Eurofins Steins Laboratorium performs both chemical analyses and microbiological analyses throughout the whole value chain of milk. From milk as a raw material to milk as a finished dairy product



The dairy segment is a new contribution to the Eurofins Group that has been actualised since Eurofins incorporated Steins Laboratorium. Steins Laboratorium has a long history of supplying analyses to the dairy industry, having specialised in the analysis of milk, cheese, and other dairy products for more than 100 years.

The vast knowledge from Steins Laboratorium will continue under the Eurofins brand. This know-how within the field of milk and dairy products will extend to other countries where Eurofins is located.

Milk quality control

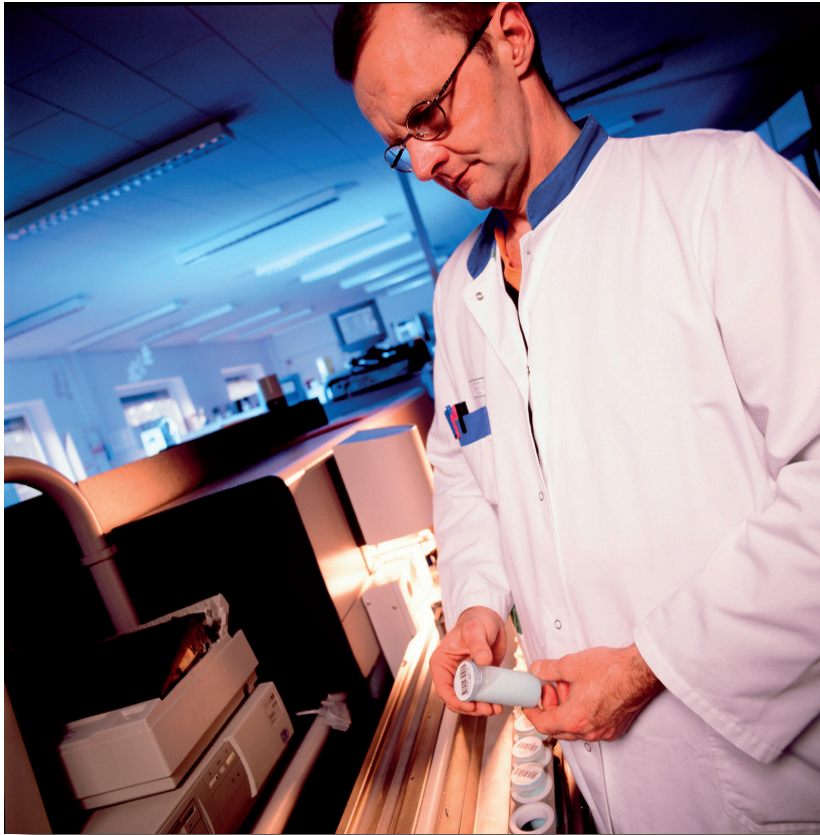
A large part of our operation includes independent control and validation of milk and water analyses from all milk producers in Sweden as an assignment from the Swedish dairies. These impartial analyses insure that about 8,000 milk producers in Sweden are paid correctly by the dairy for the milk.

From a historical point of view fat and protein are the two most important parameters in connection with pricing, mostly because they are directly connected to the product exchange for the dairy. Other important parameters are those who have a negative

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effect on the milk or the finished dairy product. A high level of bacteria or spores from *Bacillus Cereus* in the milk will have a negative effect on the milk's shelf life, whereas a high level of *Clostridium* spores in the milk will have a negative effect when making cheese. Sensorial and visual tests ensure that the milk looks and tastes correct. Eurofins Steins Laboratorium also tests the milk for variations influenced from exterior circumstances ensuring that the cows have not been treated with antibiotics and similar while delivering milk to the dairy or that the compound of the milk is not watery.

Dairy industry

We perform analyses to evaluate the nutritious value in the dairy products, sensorial tests, calibration samples, and proficiency tests to our customers. Calibration samples ensure that the

production operates, as close to production standards as possible that is an important economical parameter for all dairy production plants. Our equipment is regularly tested towards reference laboratories in Europe.

Dairy Herd Improvement

Another major part of analytical activities in Eurofins Steins Laboratorium is the control of the Dairy Herd Improvement analyses. The milk producers' cows included in the daily herd improvement programme are tested monthly which totals approximately 60 million analyses in Sweden and Denmark annually. The result that indicates the levels of fat, protein, somatic cells, and urea in the milk from each cow, will assist the milk producer to optimize the production. The milk producer uses the detailed test information to plan

individual feeding and breeding plans.

In our laboratory we have the capacity to handle very large volumes of samples and thus a unique ability to manage major customer assignments.

Transportation of dairy samples

The milk producers in Sweden are located throughout the country; this has enabled us to construct a unique nationwide coverage transportation network, where we collect samples from all over Sweden. Our transport vehicles visit more than 50 round up places every day, driving more than 7,500 kilometres a day.

The requirements on the transportation of milk samples are high. The temperature of the milk samples must be held below 4 degrees Celsius during the entire transportation from the farm to the laboratory in order for the samples to be as representative as possible.

Furthermore, the milk samples must be analysed within 30 hours from the sample extraction. This is always challenging when the milk producers are located at a distance up to 1,600 kilometres from the laboratory in Jonkoping. In order to comply with the high requirements Eurofins Steins Laboratorium use contracted transport vehicles with independent cooling system.

Our logistic network extends from Lapland in the north to Scania in the south. The samples from the most distant locations have to be flown to the laboratory in order to keep within the time deadline. Eurofins has collection stations in every major city in Sweden and our transportations operate on a daily basis.