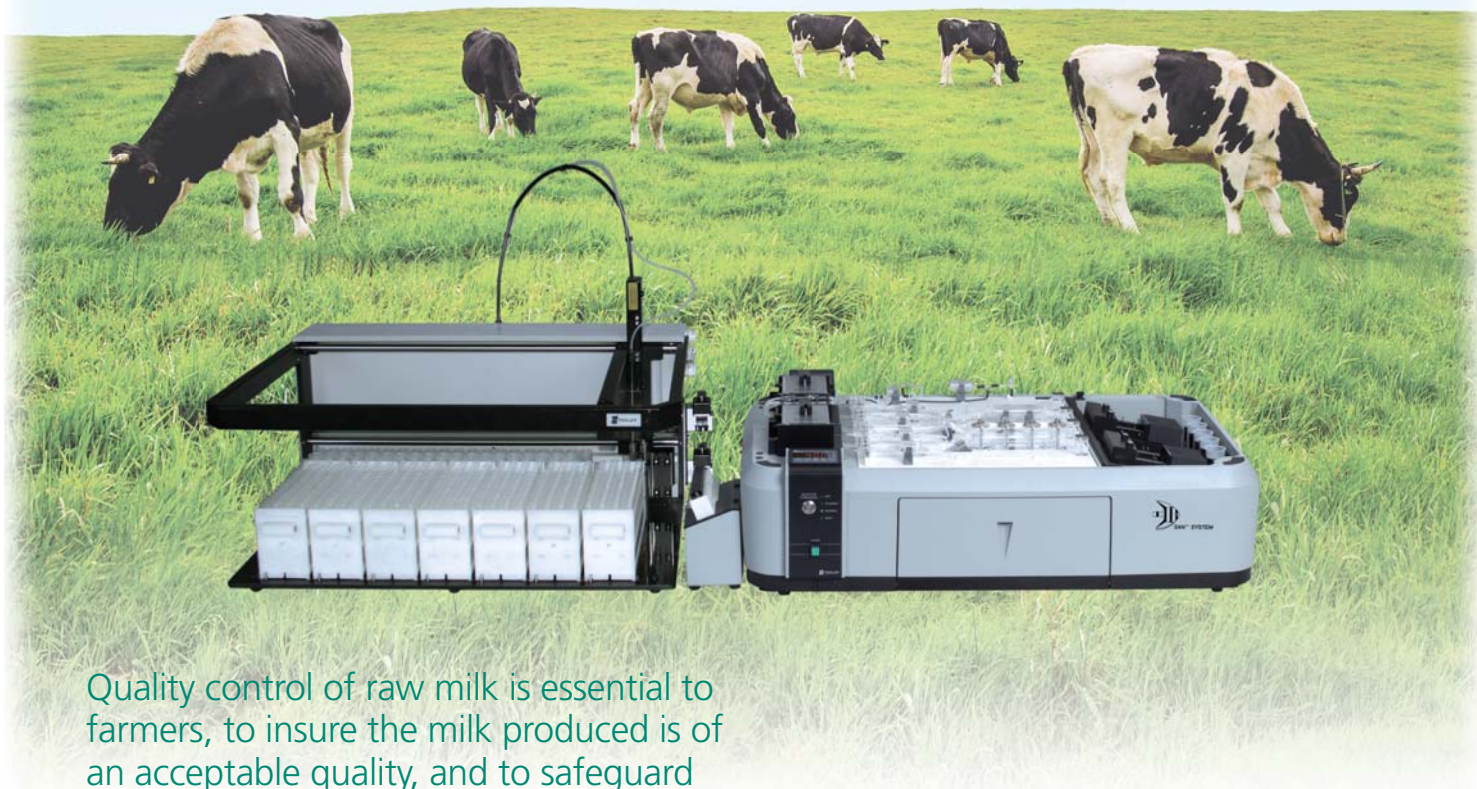


The San⁺⁺ Continuous Flow Analyzer for urea analysis in milk



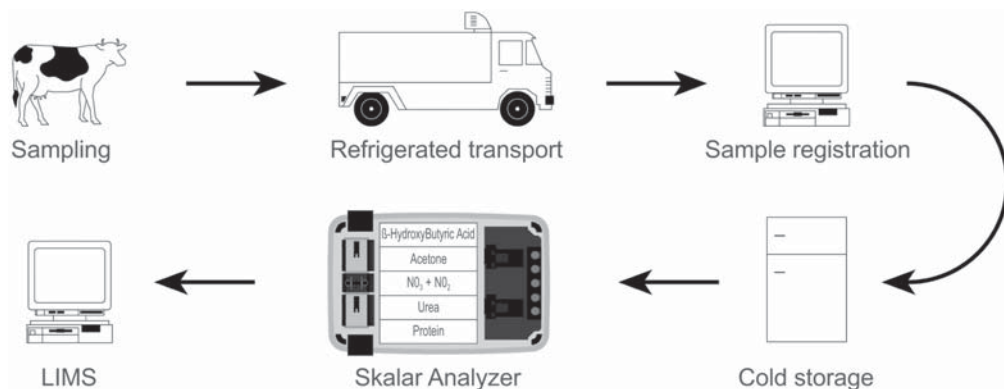
Quality control of raw milk is essential to farmers, to insure the milk produced is of an acceptable quality, and to safeguard against disease in the dairy herd.

Only when the herd is healthy it will produce top quality milk, and therefore high standard milk products. The analysis of Urea in milk is recognized as a good guide to the health of the herd. This information, received on a regular basis, is vitally important to the profitability of both the farmers and the dairy producers. Specialized laboratories have been located in many rural areas to provide farmers with this essential information.

The "Landeskontrollverband Brandenburg E. V." in Waldsiedersdorf Germany is a leading institute specializing in the supply of analytical services to the dairy industry. The institute works strictly according to the accredited DIN norm EN 45.001. This norm controls the chemical and physical analysis of raw milk. The

institute's fully structured organization deals with all the various analysis stages, from sample taking at the milking station through to sending the sample data, with advice, back to the farmer. The institute handles samples from approximately 220,000 cows every month, a number which is constantly increasing due to the growing realization of the importance of quality control.

The large number of samples handled at the institute needs not only good organization but also automation to insure a fast reliable service. The Skalar San⁺⁺ Segmented Flow Analyzer is an important part of this automation. The analysis of Urea is carried out on approximately 9000 samples per day. The system operates independently and needs minimum operator skill.



A schematic diagram showing the milk analysis procedure

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The original sample tubes, as used at the milking station, can be placed directly on the sampler. The sampler holds up to 300 sample tubes, arranged in batches of 100 and placed in a plastic tray. Individual batches can be removed or the entire tray. The sample throughput is 400 samples per hour per analyzer. The flexibility of this system not only saves time but also avoids unnecessary handling mistakes.

The applications are based on wet chemistry reactions and photometric detection. The analyzer is controlled by FlowAccess V3 Data Handling Software Package. Minor routine maintenance to keep the system clean is carried out every 2 weeks (or 120 - 150 hours of operating time) and takes about half an hour.

The samples to be analyzed are registered in the database of a Laboratory Information Management System. The working list is up-loaded from the LIMS by the operator and after the analysis is finished 1st line quality control is carried out before the data is transferred back to the LIMS. To run in conjunction with the Management System, Skalar also provides automatic quality control. The quality control samples are automatically analyzed against preset limits. The software, not only calculates the quality control samples, it also keeps track of the performance of the system itself.



Sample transport service at the Control Institute



Typical applications in Milk

Urea, Ammonia, Nitrate, Nitrite, Protein, Acetone and β -HydroxyButyric Acid (3-HBA)

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For customer service, call 0800-933-966
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