Press release

Quick detection method for germs developed for laundries

Research project makes it possible to continuously monitor the hygiene status

BÖNNIGHEIM (gh) In order to enable the microbiological water quality of process water in industrial laundries to be checked directly on site, the Hohenstein Institute for Textile Innovation (HIT) in Bönnigheim has developed a quick detection method. The method makes it possible to accurately evaluate the quality of process water within a couple of hours with regard to typical germs found in laundries.

The quick detection method for process water germs was designed as part of a research project (AIF-No.16067N/1) and tested for its practicality.

RABC systems (Risk Analysis Biocontamination Control) based on EN 14065 require the continuous monitoring and documentation of the hygiene status. In addition to the hygiene quality of the processed textiles, this also relates to the effectiveness of all processing stages relating to hygiene involved in the treatment. Immediately after the disinfecting stage, bacterial contamination of already clean laundry can occur once again as a result of process water, e.g. in the rinsing process or the extraction press (press or centrifuge). To check the microbiological quality of the process water, regular water analyses are carried out on the bacterial count by external specialised laboratories. These tests incur costs and, moreover, are time consuming.

The Hohenstein quick detection method is based on the detection of antibodies, similar to that used for pregnancy tests. The new detection method however, is specifically optimised for press water bacteria. Pseudomonads, enterobacteriaceae and other bacteria found in process water can be reliably identified to a detection limit of 10^3 bacteria per millilitre. The analysis and evaluation of the water quality is carried out using a simple colour reaction.

The new rapid bacteria detection test has been extensively tested within the project in practical situations at selected laundries. The results of the test correlate with conventional bacterial analyses as carried out in specialised laboratories.

The quick bacteria detection method can be carried out independently without the need for additional equipment to be purchased. This means that the material costs for a detection reaction are reasonable and no initial investment is necessary. The method can be carried out and evaluated by laundry staff in just a few steps. Within just a few hours, the test result can be read. The labour requirements involved in implementing the system are low.

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The above press release and the associated images can also be downloaded at any time on the Internet at http://www.hohenstein.de/SITES/de/uk/press.asp

In future, it will be possible to test the hygiene status in laundries directly on site using the newly developed quick detection method

Image: Hohenstein Institutes

Left: Result of the Hohenstein quick detection method on microbiologically pure water

Right: Discoloration of the quick detection sample due to a high level of bacterial contamination

Image: Hohenstein Institutes

The quick detection method is primarily intended to enable the hygiene status to be monitored between laboratory tests such as those shown here at the Hohenstein Institutes. It therefore offers an additional opportunity to check the water quality on site to allow rapid action to be taken where necessary and any problems to be remedied.

Image: Hohenstein Institutes