

## **Research study confirms that the freshdetect BFD-100 is the world's first handheld measurement device for the fast and non-invasive determination of the total viable count in minced meat**

To prevent that bacterial contamination of fresh meat is being transferred into the processing chain, methods for rapidly detecting bacteria are called for.

Minced meat is an especially vulnerable fresh meat product that is subject to special stringent regulations. Fast methods for detecting bacteria thus improve food safety and reduce potential financial losses by preventing unnecessary product rejects and recalls.

The methods available to date, such as laboratory testing, require several days to complete and involve the tedious shipping of samples and extensive technical effort, thus leading to time-consuming and costly control and monitoring.

The handheld measurement device from FreshDetect GmbH offers a solution to address this problem. The freshdetect BFD-100 measures non-invasive the fluorescence signatures - which change when bacteria infects the meat - and determines the total viable count (TVC) within seconds.

In a study published by Bayreuth University, Grimmier and her colleagues in Dr. Schmidt's research group analyzed the TVC in a minced meat sample using established microbiological laboratory tests and compared their results with the measurements from the freshdetect BFD-100.

The researchers analyzed minced pork samples from various sources over a storage period of eight days and demonstrated that the TVC values from the spectroscopic measurements correlate with the laboratory methods. According to Grimmier et al, the freshdetect BFD-100 measurements were accurate to  $\pm 1 \log$  (CFU/g) - colony forming unit per gram - and are thus comparable to conventional TVC laboratory tests. Using the freshdetect BFD-100, the researchers were able to register the TVC beginning at 1 log (CFU/g). The exact quantification of the TVC was possible with the freshdetect BFD-100 beginning at 3.4 log (CFU/g), which is below the critical warning value of 5.7 to 6.7 log (CFU/g).

The freshdetect BFD-100 handheld measurement device developed by FreshDetect GmbH was able to determine the bioburden in minced pork within just a few seconds, a major advantage compared to standard microbiological tests in the lab.

The results of the research study are available at:

[http://www.freshdetect.com/wp-content/uploads/2017/04/20170331\\_OCM-2017-conference-Karlsruhe-conference-proceeding-excerpt.pdf](http://www.freshdetect.com/wp-content/uploads/2017/04/20170331_OCM-2017-conference-Karlsruhe-conference-proceeding-excerpt.pdf)