

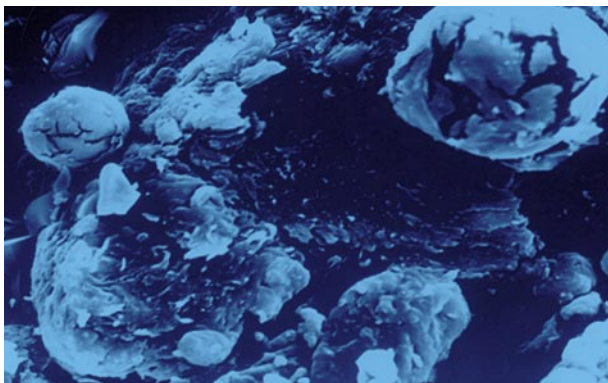
Distribution of microorganisms in the ProBion® tablet (the smart tablet)

Study performed at The Swedish Institute for Food and Biotechnology in 1999.

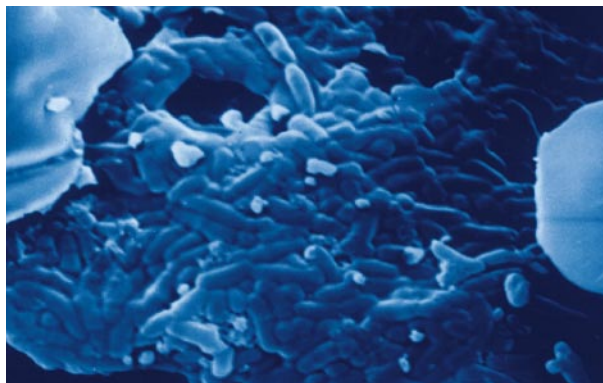
Goal

The goal of this study was to compare the bacterial content in the ProBion® tablet produced with the low compression technique with a reference tablet produced with “normal” compression forces. It was of great interest to see how different pressures in the production process effect the bacteria. Light microscopy and scanning electron microscopy have been used to carry out the investigation.

The ProBion® tablet

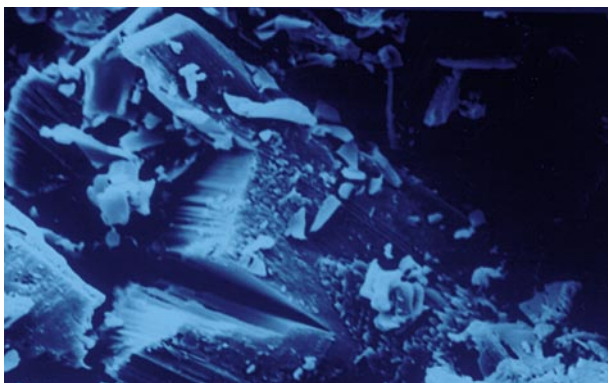


Electron-microscopic photo from the inside of a ProBion® tablet produced according to Wasa Medical Groups “low-compression-technique”. The fibres of inulin form round cavities in which the living probiotic cultures are sheltered until they reach the intestine. The tablet is unique and is the only tablet that can deliver high counts of viable lactic acid cultures to the right place in the body.



The photo shows what it looks like within one of the cavities on the photo to the left. The bacteria are viable but freeze-dried and are activated when they reach the intestine. The tablet dissolves slowly and the viable bacteria are spread over a large area of the intestine. Together with the inulin fibres the bacteria start rebalancing the intestinal microflora.

A tablet produced with “normal” compression forces.



When “normal” compression forces are used during production of tablets the major part of the bacteria are killed. The structure of the tablet is similar to blocks of cement in which there are no space for living bacteria.

Conclusion

It was obvious that the bacteria in the ProBion® tablets are better preserved than bacteria in the reference sample. It is likely that the lower pressure used during production has a less destructive influence on the bacteria. In ProBion® both bacilli and cocci are found while in the reference, most of the bacteria found are cocci.