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## Antioxidative strain *Lactobacillus plantarum* Inducia as natural agent for prolongation the yoghurt's shelf life

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Increasing the shelf-life of live yoghurt is a challenge. Several chemical antioxidants are used. An alternative is adding live antioxidative bacteria. The aim was to assess the ability of antioxidative and antimicrobial strain *L. plantarum* Inducia (DSM 21379) to extend yoghurts shelf life. Test batches of yoghurt (fat content 2.7%) were prepared comprising *L. plantarum* Inducia ( $1 \times 10^{17}$  cfu/g) as an additional starter. Additional starter was used to inoculate the milk in different doses as follows: 1 g/t; 3 g/t; 5 g/t; 10 g/t. The test batches were stored at +4°C. The survival of *L. plantarum* Inducia in yoghurt was evaluated during and after the shelf life (21 days) twice a week. Sensory assessment was conducted after the shelf life once a week. The survival rate of *L. plantarum* Inducia was stable throughout the testing period. The count of *L. plantarum* Inducia remained stable for 35 days or longer after the production being from  $1 \times 10^6$  to  $6 \times 10^6$  cfu/g in the case of inoculation doses 1 g/t and 3 g/t and from  $3 \times 10^8$  to  $8 \times 10^8$  cfu/g while inoculated 5 g/t and 10 g/t. The flavour of test yoghurts was good for 9 to 15 days after the shelf life. The dose 1 g/t gave any prolongation for shelf life. In conclusion, *Lactobacillus plantarum* Inducia as natural antioxidative agent used in efficient doses has the potential to prolong the shelf life of yoghurt as a natural preservative.

### Biography

Kristiina Kokk achieved a Master Degree in Animal Science and is continuing PhD studies in Institute of Veterinary Medicine and Animal Science of the Estonian University of Life Sciences. She is currently working as a Researcher in the field of microbiology (in Bio-Competence Centre of Healthy Dairy Products LLC). Kristiina is a co-author of 1 patent and first author of 2 patent applications. She has skills in organizing and conducting clinical and veterinary trials with health promoting food and feed. She is experienced on developing probiotics (*in vitro* and safety studies).

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