Abstract No. 7

The Determination of Growth and Survival of Acid Adapted Escherichia Coli Strains in Fermented Goat Milk

Main Author **Dlamini Bhekisisa Mr** **Presentor** **Dlamini Bhekisisa Mr**

University of Pretoria Department of Food Science Pretoria SOUTH AFRICA sisadlamini2003@yahoo.com

Co-Authors

ABSTRACT

The number of farmers who are engaged in goat milk production in South Africa is increasing. Production of milk from goats is novel and to some people, milk from goats provides a good substitute for cow's milk since it is believed to be more digestible and less allergenic. Raw milk and milk products, however, have been implicated in the outbreak of diseases caused by Escherichia coli. Research attributes this to the development of acid adaptation in bacterial cells. In this study, the growth and survival of acid adapted and non-adapted strains of E. coli in fermented goat milk will be determined.

The effect of low pH on acid adapted E. coli will be determined by observing the expression levels of genes of the outer membrane proteins (OmpC, OmpF) profiles using RT-PCR and through observing changes in the fatty acid profiles. In the preliminary stages of the study, presumptive E. coli colonies have been isolated from three samples obtained from three different farms. The presumptive E. coli strains will be identified by serotyping and strains that test positive will be used for determining acid adaptation. The determination of whether E. coli survive in fermented goat milk products will shed some light into the safety of dairy products made from goat milk. A better understanding of acid adaptation mechanisms may offer an insight into the control of pathogenic E. coli in fermented goat milk products.

Publication Date: 07 May 2007