The significance of proteolytic psychrotrophs as a cause of milk flocculation / protein instability

(PRJ-0091-2016)

University of the Free State

Quarter 2 2016/2016 (April 2016 till June 2016)

Project goals

Objective 1 - To do a literature review of psychrotrophic counts and types in refrigerated milk, the potential sources of contamination and the seasonal effect on the prevalence of the bacterial contaminants: January 2016 – May 2016, but also adding new information as it becomes available (until 2018)

Achievements

The literature review has been completed and need to be reviewed by Dr Charimba.

No Non-achievements / underperformance has been reported

Objective 2 - Evaluation of accelerated quantitative methods for the detection of psychrotrophic bacteria in milk. Goal: To compare conventional methods for detection of psychrotrophic bacteria with accelerated methods. Milk samples will also be subjected to incubation at 7 oC until the milk flocculates and the prevalent bacterial types isolated from Pseudomonas selective agar at that point will be identified: March 2016 - September 2016

Achievements

This objective consists of two parts. The first part evaluates and compares accelerated methods for detection of psychrotrophic bacteria with each other and entails taking samples from 10 to 12 farmers on a weekly basis for 6 weeks. At the end of the second quarter, two of the six sampling and evaluation replications have been completed.

The second part of this objective entails the identification of proteolytic organisms on media such as skim milk agar and CAS agar as well as from Pseudomonas selective agar. This part of the objective will only commence once all six sampling and evaluation replications have been completed.

No Non-achievements / underperformance has been reported

Objective 3 - To determine the correlation of microbial quality counts of raw milk with accelerated psychrotrophic tests. Goal: To compare the total bacteria counts, coliform counts and psychrotrophic counts of bulk raw milk and the Psychro-Fast test. The most prevalent psychrotrophic bacterial types when the milk flocculates will also be determined: March - September 2016

Achievements

This objective also consists of two parts. The first part evaluates and correlate microbial counts of raw milk with accelerated methods for detection of psychrotrophic bacteria. This part entails taking samples from 10 to 12 farmers on a weekly basis for 6 weeks. At the end of the second quarter, two of the six sampling and evaluation replications have been completed.

The second part of this objective entails the identification of the most prevalent psychrotrophic bacterial types when the milk flocculates. This part of the objective will only commence once all six sampling and evaluation replications have been completed.

No Non-achievements / underperformance has been reported

Income and expenditure statement

Income and expenditure statement	Statement 2.docx
Unnecessary spending during period	No

Popular Report

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Additional documentation

POPULAR REPORT 2.docx

Statement

Levy funds were applied only for the purposes stated in the contract	Yes
Levy funds were applied in an appropriate and accountable manner	Yes
Sufficient management and internal control systems were in place to adequately control the project and accurately account for the project expenditure	Yes
The information provided in the report is correct	Yes