



# **RESISTANCE TO AVAILABLE ANTIBIOTICS IN LACTATING COWS WITH MASTITIS**

(PRJ-0110-2016)

**University of Pretoria (ML van der Leek, Principal Investigator) -**

**Year 2016** (January 2016 till December 2016)

## **Project goals**

**Goal 1 - Mastitis survey among SA milk producers; herd visits for verification of survey data; collection of additional data; analysis of the survey data; and writing up the SCC study: January to June 2016**

### **Achievements**

The survey was vetted and deployed to the MPO membership in April via email and mail. A total of 220 surveys were returned and after evaluation, 147 were deemed eligible. Reasons for exclusion included responses with no or very little data and double responses. The survey was resubmitted to the participating herds allowing for them to fill in some of the blanks. A non-respondents survey of 20 herds was conducted by telephone to show that survey herds approximate the industry. The survey was verified and further data collected by visiting 20 farms from July through September. Additional data collection from third parties continued through December. The non-respondent and questionnaire herds were selected at random, to represent four distinct regions of study: central South Africa, Kwa-Zulu Natal, Eastern Cape and Western Cape. Data to be cleaned and analyzed.

Attached are two lay publications regarding the mastitis project.

	Survey (147)	Questionnaire (20)	Non-Respondent (20)
<b>Number of cows</b>	399 ± 364	649 ± 398	535 ± 352
<b>Breed*</b>			
Holstein	59%	85%	65%
Jersey	65%	70%	45%
Other	31%	35%	25%
<b>Management System</b>			
TMR	16%	30%	30%
Pasture	49%	50%	65%
Combination	35%	20%	5%
<b>Is mastitis a problem?</b>			

Yes	65%	60%	55%
No	35%	40%	45%

***No Non-achievements / underperformance has been reported***

**Goal 2 - Testing of mastitic milk samples at the milk laboratory of the Faculty of Veterinary Science, Onderstepoort (ongoing)**

***Achievements***

Antibiograms have now been completed on 357 milk samples (110 for 2015 and 261 for 2016), representing 9 provinces (including Namibia as a province), 61 farms and 349 cows (8 cows tested on two occasions). Testing continues, there now being a sufficient number of samples to analyse in 2017.

***No Non-achievements / underperformance has been reported***

**Goal 3 - Collection and collation of microbial isolation and sensitivity testing data from other laboratories (ongoing)**

***Achievements***

An agreement was reached late in the year with Deltamune for them to share 3 years' worth of historic data, somewhat complicated given that the data has to be extracted from 3rd party software. A further agreement with them will allow more extensive testing of samples already submitted to their laboratory, to include the determination of different strains of mastitis pathogens.

***Non-achievements / underperformance***

Slower progress than anticipated with a visit to Allerton having been delayed while a suitable post-grad student is identified.

***Reasons for non-achievements / underperformance***

The focus for 2016 was the survey.

***Planned remedies for non-achievements / underperformance***

Deltamune milk testing will start early next year after implementing the Milk SA mastitis project protocol.

**Goal 4 - Analysis of Somatic Cell Count (SCC) fluctuation data (ongoing)**

***Achievements***

We were able to identify a 3-year period from the 10-year database with more complete data – continuous weather and repeated cow test data for analysis.

***Non-achievements / underperformance***

SCC study not completed.

## ***Reasons for non-achievements / underperformance***

Finding an appropriate dataset and its analysis has been a challenge.

## ***Planned remedies for non-achievements / underperformance***

We have reached out to our Dutch colleagues for assistance. Slotting in with their schedule has caused a delay, but the process is underway.

## **Income and expenditure statement**

Income and expenditure statement	<a href="#">A0Y232 - Milk SA Financial Report - 31Dec2016.xls</a>
Unnecessary spending during period	No

## **Popular Report**

[milk sa annual report popular vd leek 2016.docx](#)

## **Additional documentation**

[Dairy Mail vet column AMR.pdf](#)

[UP website homepage - New UP project to support South African dairy industry.pdf](#)

## **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