



RESISTANCE TO AVAILABLE ANTIBIOTICS IN LACTATING COWS WITH MASTITIS

(PRJ-0110-2016)

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

Quarter 3 2016 (July 2016 till September 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

Mastitis online survey

The data originally collected was organized and cleaned in preparation for analysis. We have 149 surveys eligible for analysis, in various stages of completion as returned by respondents. These include the 20 herds that were visited. To follow:

An individualized follow-up survey will be resubmitted to all online survey respondents. It will be populated with their earlier answers.

We will seek official authorization from those who had agreed for us to access their milk testing data.

Data will be analysed outputting descriptive statistics and looking for associations between multiple variables and the following outcomes: somatic cell count (SCC), mastitis cases, mastitis culls and the length of stay of mastitis cows in the hospital. We have also collected a good amount of commentary.

We also completed a non-respondent survey that did reflect a similarity with the herd characteristics of the survey herds. Of interest are the reasons they did not participate:

	Reason for not taking part in survey:
WC 1	Internet problem, couldn't open link
2	Unaware of survey/did not receive it
3	Unaware of survey/did not receive it
4	Unaware of survey/did not receive it
5	Unaware of survey/did not receive it
EC 6	Did not have time to complete survey
7	Did not have time to complete survey
8	Unaware of survey/have been absent from office for quite some time
9	Can't remember if he did receive it or not
10	Unaware of survey/did not receive it
KZN 11	Unaware of survey/did not receive it

12	Unaware of survey/did not receive it
13	Did not have time to complete survey
14	Did not have time to complete survey
Central 15	Unaware of survey/did not receive it
16	Unaware of survey/did not receive it
17	Unaware of survey/did not receive it
18	Unaware of survey/did not receive it: computers stolen and missed emails
19	Unaware of survey/doesn't know if manger received it or not
20	Did not have time to complete survey

Mastitis herd visits and questionnaire

Twenty herd visits were conducted between July 12 and September 15. Five herds per region/province were selected at random, with herds of >200 cows eligible.

Region	Dates
Central South Africa	11 to 22 July
KZN	1 to 12 August
EC	22 August to 2 September
WC	5 to 16 September

Questionnaire	Range	Mean	Median	SD
Cows in milk	205 - 1462	649	451	398
DIM	157 - 265	187	182	23
Milk production	14 - 40	20.75	17.1	7.6
BMSCC	158 – 464	272,466	258,022	84,526

Question	Result
Given the same level of profit, what is your management style? High input, high production (questionnaire): Low input, low production: Other:	High=9 Low=8 Other=3
Milk testing (questionnaire)	Yes=8 No=12
Average number of mastitis cases (n=55) (survey)	33% per year 2.75% per month
Average number of mastitis culls (n=34) (survey)	7% per year 0.58% per month
Routinely collect milk samples for bacteriology? (survey)	23/83 or 27.7%
Routinely request antibiograms? (survey)	17/83 or 20.5%

We were very well received and owners &/or managers were eager to participate, sharing their data freely. We collected both new data, such as the timing of the milking routine and a variety of prices, and completed their original surveys. Following completion of the herd visits Leen Leenaerts left South Africa on September 23.

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

We now have a total of 328 samples representing 53 farms in the EC, KZN, LP, NW, WC & one from NAM. Dr Nenene Qekwana will assist in analysis and has started looking at the data.

No Non-achievements / underperformance has been reported

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

Achievements

Communication with Vetdiagnostix continues. Allerton, and Dr Caryn Shacklock, has agreed to participate following our meeting at a CPD even in Pietermaritzburg. A visit to the lab is needed to assess the effort that will be required to migrate the records from paper-based to digital. A visit to the Deltamune Milk Laboratory in Oudtshoorn, and meeting with Etienne van Zyl, confirmed their participation with about 3 years' worth of data available for analysis. I have met on several occasions with Dr Nenene Qekwana and we have agreed to his taking the lead in the compilation and analysis of the AMR data.

No Non-achievements / underperformance has been reported

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

Achievements

After rebuilding the dataset we remained unable to analyse what was considered to be a sufficient sample. Modelling of a subset of 6,000 cows wasn't possible. We have turned to our Dutch colleagues for assistance.

Non-achievements / underperformance

Struggling with data analysis.

Reasons for non-achievements / underperformance

Large database.

Planned remedies for non-achievements / underperformance

Keep pushing the next option for analysis.

Income and expenditure statement

Income and expenditure statement	AOY232 Ledger UP_CC_SUM.pdf
Unnecessary spending during period	No

Popular Report

No file has been uploaded

Popular report and Additional documentation

[milk sa update 161012.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