



Co-ordination, support and promotion of needs-driven research & development in the South African dairy industry.

(PRJ-0287-2021)

Dr Heinz Meissner, Milk SA

Quarter 1 2021 (January 2021 till March 2021)

Project goals

Goal 1 - To promote R & D, limit research fragmentation and initiate cooperation between R&D capacities towards achieving the strategic direction of the industry

Achievements

The negotiations with the TIA have culminated in a new proposal to them by the author, which they hope to fund from their ABIPP (AGRICULTURE BIO-ECONOMY INNOVATION PARTNERSHIP PROGRAMME). They have however indicated that they are interested only in Milk SA's R & D projects which will have a tangible outcome, and thus have identified the following:

Programme: Animal health and welfare

Project: Mastitis control by alternative approaches

Project: African diseases: A genomic approach to control.

Project: Animal welfare: An assessment of functional traits.

Programme: Milk quality and safety

Project: Milk flocculation and gelation affecting milk quality

Project: Maintaining and developing quality and safety standards.

Programme: Innovative dairy products.

Development of a functional yogurt.

The application to the ABIPP of TIA is attached as ANNEXURE 1.

The project executed by Dr Carel Muller on efficiency measures which can be incorporated in AMRS software has been finished and the final report has been submitted. However, because there were concerns about the reliability of milk composition data in the dataset used for the analyses, the final report will not be published.

A new project with project leader Prof Celia Hugo of the UFS: **Evaluation and validation of methods for the detection of psychrotolerant bacteria and proteolytic enzymes in milk** has been approved. The problem of facial eczema of cows in the south-eastern Cape has led to discussions with Dr Anthony Davis. A desktop/literature study is envisaged at this stage.

No Non-achievements / underperformance has been reported

Goal 2 - To guide the R&D program by means of effective structural arrangements, administration and fund sourcing

Achievements

The R & D budget for research projects (excluding administration and remuneration) is about R6 million for 2021. Although the allocation from the Board was only R3.6 million, funds are available from previous years, which allow the R & D Programme to execute the envisaged projects. Also, if successful, the ABIPP of the TIA should add another R2.2 million to the budget in 2021.

In the MANCOM and DRDC Meetings of respectively of 3 February and 17 February, special attention was given to the procedure and standardization of project proposal evaluation. To that effect the Policy document reflecting procedure, IP, contracts and financing was adapted by the author. A further addition to the quarterly report of the author is the status of developments in Animal Health, Animal Welfare and Environmental Sustainability, which will be provided to him by the managers of these disciplines, respectively Dr Chris van Dijk, Mr Jompie Burger and Dr Colin Ohlhoff.

Following the resignation of Mr Charl Du Plessis from the DRDC, member representation was re-evaluated to provide further expertise and representativeness from the industry, and accordingly the following new members were appointed: Mr Jompie Burger, Mr Hannes Neethling and Mr Stiaan Bester.

The status of running projects financed by Milk SA has been summarized by the author (see ANNEXURE 2).

No Non-achievements / underperformance has been reported

Goal 3 - To accumulate and publish existing domestic and international scientific knowledge of applicable and practical value to enhance the industry

Achievements

THE RESEARCH COLUMN: The target of scientific articles sourced from the international literature to be entered on the website is two per month, meaning six for the quarter. The target was met. Some of the articles were also published in The Dairy Mail under the regular research column of the author. The topics covered as reflected in the titles of the papers are:

Fertility and milk production on commercial dairy farms with customized lactation lengths. Genetic and non-genetic factors associated with lactation length in seasonal-calving, pasture-based dairy cows.

Changes in stability and shelf-life of ultra-high temperature treated milk during long term storage at different temperatures.

Effects of diet fermentability and supplementation of 2-hydroxy-4-(methylthio)-butanoic acid and isoacids on milk fat depression: 1. Production, milk fatty acid profile, and nutrient digestibility. 2. Ruminal fermentation, fatty acid, and bacterial community structure.

Genetic factors of Alzheimer's Disease modulate how diet is associated with long term cognitive trajectories: A UK Biobank Study.

Evaluation of solar photovoltaic systems to shade cows in a pasture-based dairy herd.

DAIRY R & D IN SA: The target of South African scientific articles sourced to be entered on the website is also two per month, i.e. six per quarter. The target was met. The following themes were covered:

INTERESTING RESULTS ON SOMATIC CELL COUNT FROM SA TEST DAY RECORDS.

ACROSS-COUNTRY GENETIC ANALYSIS FOR DAIRY CATTLE PERFORMANCE.

RECENT ESTIMATES OF GREENHOUSE GAS EMISSIONS (GHG) OF DAIRY CATTLE.

EFFICIENCY MEASURES ANALYSED FROM AMRS DATA.

A JOURNEY TOWARDS NEGATIVE NET CARBON EMISSIONS ON DAIRY FARMS.

WATER SAVING AND EFFECTIVE USE.

No Non-achievements / underperformance has been reported

Goal 4 - To advise and assist with national and international managerial, strategic and position publications on any matters which may support the strategic direction of the industry. Advice may also imply representing the industry on government and non-government bodies

Achievements

No need was identified during the first quarter of 2021.

No Non-achievements / underperformance has been reported

Goal 5 - To support the dairy sector with R & D and advice on matters affecting sustainability. These include: Environmental – greenhouse gas reduction, carbon sequestration & storage, water and pasture fertilization efficiencies, waste and effluent reduction and treatment, and ecosystem and biodiversity protection ; Animal welfare – the internationally acknowledged five freedoms (freedom from: a. thirst, hunger & malnutrition; b. discomfort; c. pain, injury & disease; d. to express normal behaviour, and e. fear & distress) are the point of departure

Achievements

The author focuses on writing or sourcing articles with an environmental sustainability theme, including GHG reduction, carbon sequestration, water use efficiency and waste management. Because of his known knowledge in this regard, he is sometimes consulted for input or advice. A case in point is a report written by the WWF-SA on: **Investing in Dairy: Business Case for Sustainability**. A second example is a summary which was written for the news letter 'ReStory' on: **Sustainability in the South African Dairy Industry – a project by MilkSA**.

From time to time the sustainability of livestock (eg dairy) production is threatened by claims and selective information by anti-livestock activists. The document: **Anti-cattle campaign: Arguments to refute claims – Heinz Meissner**, has been written by the author for everyone who wishes to have facts when confronted with the anti-cattle campaign. The document is attached as ANNEXURE 3.

With regard to animal welfare, the author is part of the discussion and planning group which culminated in the project by the DSA: **Practical implementation of SANS 1694 with DSA audit**.

No Non-achievements / underperformance has been reported

Income and expenditure statement

Income and expenditure statement	MSA Meissner PRJ-0287 Q1 Report 2021 Expenditure.docx
Unnecessary spending during period	No

Popular Report

[MSA Meissner PRJ-0287 Q1 Report 2021 Popular Report.docx](#)

Additional documentation

[MSA ABIPP Funding Application ANNEXURE 1.docx](#)

[MSA R & D Projects - Report & Status January 2021 ANNEXURE 2.docx](#)

[Anti-cattle campaign-Arguments to refute the claims_Heinz Meissner - ANNEXURE 3.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