



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

(PRJ-0368-2024)

Dr Heinz Meissner

Quarter 4 2024 (October 2024 till December 2024)

Project goals

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

Achievements

The Technology Innovation Agency (TIA) is still finalizing the application and the indication now is that the funds will not become available before the first quarter of 2025. The delay is frustrating, but nevertheless the prospects are that the co-funding by the TIA should increase the R & D budget in the next three years by about R3-4 million per year.

Regarding collaboration with other scientific capacities, in terms of the Agreement between Milk SA and Beef and Lamb NZ, through FABI, a Meeting between the parties was held on 21 November. The purpose was to report progress and reflect on activities in 2025. The FABI-NZ project pays attention to characterization of the sporidesmin fungus *Pseudopithomyces chartarum* causing facial eczema in the Eastern Cape. The most significant finding to date is that whereas on NZ pastures there are several species, which do not necessarily produce sporidesmin, the FABI characterisation work thus far shows only the sporidesmin-producing fungus. Following the delay because of FMD, the work on all sporidesmin projects including the spore count service, has been resumed. Some of the projects as other ear-marked projects, are however depending on the co-funding of the TIA.

The R & D projects planned for the next three-year cycle, commencing in 2025, with significant implications towards environmental sustainability, animal health and welfare, and the strategic direction of the industry have been shown in the Quarter 3 Report. What became crucial is that FMD work had also to be included in the programme, as the disease is globally rather uncommon in dairy farming, and thus urgent projects have been included in the programme with the respective titles: "Preliminary investigation of bulk tank milk testing in FMD-infected milk", and the "Histology Project", which will run alongside the spore count service mentioned above.

No Non-achievements / underperformance has been reported

Goal 2 - To guide the R&D program by means of effective structural and R

& D Committee arrangements, initiating and promoting research initiatives, research project construction and evaluation, and fund sourcing

Achievements

With regard to general administration, a MANCOM Meeting was held on 31 October and a DRDC Meeting on 19 November 2024. Prominent items dealt with at the MANCOM and DRDC Meetings include: (1) The objective to undertake a study to establish the desirability of a laboratory/research centre in Jeffreys Bay in the Eastern Cape, was still standing. To that effect Mr Burger and the author, together with Dr Davis, visited a possible premise on 9 December and discussed laboratory needs with the Landlord. In further interactions it was decided that the umbrella goal of the facility will be Bio-security support to the industry as a means of enhancing sustainability, and since the facility will deal with communicable diseases, the possibility of a PPP between Milk SA and DALRRD should be investigated. (2) Due to budget shortages the author shared his estimates of cuts to the total amount of R2 244 283 with DRDC members, and advancing a budget of R6 387 300 for 2025 (see Attachment 1). (3) Dr. Ohlhoff reported that the matter of carbon credits was raised at the World Dairy Summit 2024, when at a joint meeting of the Standing Committees of Environment, Dairy Policies and Economics, Marketing and Nutritional Health it transpired that IDF itself did not have a position on carbon credits. He was of the opinion that they would start investigating this matter in due course. (4) Dr. Chimes said that he and Dr. Davis were documenting a basic strategy in terms of what they experienced during the outbreak of FMD in the Eastern Cape and that this document would be circulated to role-players on completion. Dr. Chimes also indicated that research into the duration of viral excretion into milk as well as ways to prevent or minimize double pasteurization of virus infected milk, were important areas to investigate with the FMD SAT strains. It was furthermore decided to put a formal request from the Dairy Research and Development Committee (DRDC) to Dr. Maja from DALRRD to revise the current FMD protocol., since the current protocol is outdated. (5) The author reported that a CSIR bio-technology group made a submission to the R&D Programme in which they explained that they could easily measure and detect Brucellosis infection by using LAMP (Loop-mediated isothermal amplification), a DNA amplification technique, that could quickly and accurately diagnose infectious disease. During the discussion it became clear that the CSIR was also involved in Brucellosis vaccine development and were already testing vaccines on mice. This should be pursued further. (6) The author referred the meeting to the list he compiled of scientific publications and post-graduate qualifications from research projects funded or associated with the Milk SA R&D programme over the five-year period from 2020 to 2024 (see Attachment 2). He presented this for information of the meeting and to indicate that substantial development flowed from projects which were handled by the DRDC. (7) Mr. Fouché informed the meeting that from 2026 the allocation for the R&D programme would probably increase from the current 6.5% of levies to between 8 and 9% of levies. He suggested that the author compile a basis document of funds required by the R&D programme for the four-year period from 2026 to 2029. The suggested increase would be much more in line with R & D levy allocations of other agricultural industries in SA to R & D (see Attachment 3). (8) The author, Mr. Fouché and Mrs. Rademan need urgently to address ways and means to communicate to unprocessed milk producers, milk processors and dairy product consumers, the results and information generated by the Milk SA R&D Programme. In support, the author should compile a brief document on the work that has been done to date by the R&D Programme of Milk South Africa, from available information which could be presented for editorial review for the format of an eye-catching booklet.

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 and DAIRY R & D IN SA: The target of respectively scientific

articles sourced from the international literature and SA scientific articles to be entered on the website is two per month, i.e. six for the quarter. The target was met. Some of the articles may be published in the Dairy Mail under the regular Research Column of the Project Manager and others in the Milk Essay.

The October to December 2024 list for THE RESEARCH COLUMN is:

Dry matter intake in US Holstein cows: Exploring the genomic and phenotypic impact of milk components and body weight composite.

Effects of bulk tank milk, waste milk, and pasteurized waste milk on the nutrient utilization, gastrointestinal tract development, and antimicrobial resistance to Escherichia coli in preweaning dairy calves.

Feeding rumen-protected methionine during the peripartum period improved milk fat content and reduced the culling rate of Holstein cows in a commercial herd.

Effects of dose, dietary nutrient composition, and supplementation period on the efficacy of methane mitigation strategies in dairy cows: A meta-analysis.

Vertical back movement of cows during locomotion: detecting lameness with a simple image processing technique, and Potential biomarkers for lameness and claw lesions in dairy cows: A scoping review.

Investigation of livestock transport trailers as potential fomites for antibiotic-resistant Escherichia coli.

The October to December 2024 list for DAIRY R & D IN SA is:

NON-GENETIC FACTORS INFLUENCING FEED EFFICIENCY TRAITS IN COWS
THE EFFECT OF EBV ON LIFE TIME MILK YIELD AND YIELD EFFICIENCY
PREDICTION MODELS FOR GROSS FEED EFFICIENCY FOR TMR SYSTEMS

EVALUATION OF THE ENVIRONMENTAL, NUTRITIONAL AND ECONOMIC IMPACT OF MILK AND PLANT-BASED BEVERAGES.

UNDERSTANDING NET GREENHOUSE GAS (GHG) EMISSIONS BY CATTLE

COMPREHENSIVE APPROACH TO EVALUATE SUSTAINABILITY IN MILK AND PLANT-BASED BEVERAGE PRODUCTION

The topic of bullet 4 and 6 provide results of a project which Milk SA funded.

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

Achievements

The sustainability document: "Sustainability in the SA Dairy Industry: A Status and Progress Report" provides strategic and position guidance to the Board and officials. The decision was that updates will be done in April and October, and the document will, apart from internal distribution, also be sent to the DSF to evaluate progress of the SA Dairy Industry on international sustainability goals. The October 2024 edition is available at the Milk SA website.

No Non-achievements / underperformance has been reported

Goal 5 - To support the dairy industry with R & D and advice on matters affecting sustainability, such as environmental – GHG reduction, carbon sequestration, water use efficiency, waste treatment, ecosystem and biodiversity protection – and animal welfare. To that effect, also oversee the Animal Health and Welfare and Environment programmes

Achievements

The sustainability document mentioned under Goal 4 is compiled in line with the UN's 2030 Development Goals with much emphasis on GHG reduction, water use, waste reduction, ecosystem and biodiversity protection, and animal care.

Additional articles aligned with Goal 5 objectives from the list under Goal 3 are:

Effects of dose, dietary nutrient composition, and supplementation period on the efficacy of methane mitigation strategies in dairy cows: A meta-analysis.

Vertical back movement of cows during locomotion: detecting lameness with a simple image processing technique.

Potential biomarkers for lameness and claw lesions in dairy cows: A scoping review.

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A recent review where the author is co-author is also relevant:

R. Reinecke, J.N. Blignaut, H.H. Meissner & P.A. Swanepoel, 2024. Advancing carbon sequestration and nutrient management in the South African dairy industry for sustainable growth. *Front. Sustain. Food Syst.* 8:1397305. doi: [10.3389/fsufs.2024.1397305](https://doi.org/10.3389/fsufs.2024.1397305)

No Non-achievements / underperformance has been reported

Income and expenditure statement

Income and expenditure statement	MSA Meissner PRJ-0368 Q4 Report 2024 Expenditure.docx
Unnecessary spending during period	No

Popular Report

[MSA Meissner PRJ-0368 Q4 Report 2024 Popular Report.docx](#)

Additional documentation

[ATTACHMENT 1_Meissner_PROPOSED R & D BUDGET FOR 2025.docx](#)

[Attachment 2_Scientific publications and post.docx](#)

[Attachment 3_Research expenditure by Agriculture Commodity Groups in SA.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