



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

(PRJ-0368-2024)

Dr Heinz Meissner

Quarter 2 2024 (April 2024 till June 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 business plan between the Technology Innovation Agency (TIA) and Milk SA was completed and submitted. This should facilitate cooperation and the co-funding of the R & D projects entered. The projects have been reshuffled since the previous report to prioritise the most needed and expensive. Co-funding by the TIA should increase the available budget for R & D in the next three years by about R3-4 million per year. A further development is that support may come from the private sector in the Dairy Industry and their suppliers as well. Preliminary discussions indicate that relevant companies have R & D funds which could support generic and public domain projects as long as the companies themselves also benefit from the outcomes. This possibility will be pursued further.

Regarding collaboration with other scientific capacities, an informal agreement, through FABI (Forestry, Agriculture and Biotechnology Institute at the University of Pretoria), had been signed between Milk SA and Beef and Lamb NZ to share information as well as a confidentiality agreement on what each party was doing. The achievements to date of Beef and Lamb NZ were very similar to those of FABI and both had isolated an almost identical strain of fungus producing Sporidesmin. Both organisations have also established that the fungi were not seed borne.

For general and environmental sustainability, in particular, it has become critical to effectively manage slurry from dairy farms. Due to the many complexities related to manure management, it is important to regard the proper management thereof as an interactive process. A large project proposal has been designed, involving the Engineering Faculty at Stellenbosch University, Trace and Save and Asset Research to trace N, P and K intake, disposal on pasture and waterways through the manure and irrigation systems, and to understand the implications thereof plus that of other polluters, in order to find solutions for excess, and to see if the N, P, and K cannot be economically utilised instead. This is one of the projects that have been entered in the business plan with the TIA. Others are the possibility to develop a new vaccine to combat Brucellosis, an aftercare project testing the efficacy of the DESTiny model in calculating emissions and sequestration, plus economical implications on-farm, under different farming

conditions (pasture, TMR and mixed), and two running sporidesmin (facial eczema) projects in the Eastern Cape.

With regard to the sporidesmin projects, considerable delay is expected due to the outbreak of FMD in the Eastern Cape because of biosecurity measures, costs and involvement of Dr Davis, one of the project leaders. It is not expected that there will be further progress on the projects in 2024.

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

A MANCOM Meeting was held on 15 May and a DRDC Meeting on 6 June 2024. The Project Manager also participates in the Coordinating Committee under Mr Kraamwinkel as Chair, but outcomes of Meetings are reported elsewhere.

Prominent items dealt with at the MANCOM and DRDC Meetings include: (1) The need for a DSA laboratory in the Eastern Cape has been established, bearing in mind services provided by private laboratories in the area, and a business plan to that effect is being developed. (2) Dr Chimes, apart from his representation of the the SAVA on the NAHF, he will now also represent Milk SA. This is important considering the special attention given to Brucellosis at the NAHF, and in a further well come development, he has been elected Chairman of the CA and TB steering committee of the NAHF. Also, further regarding Brucellosis, the DSA laboratory is interacting with the DALRRD and is well advanced in the process of doing Brucellosis tests. (3) Drs. Ohlhoff and Meissner, and Mr. Fouché discussed the Dairy Sustainability Framework membership of Milk SA with Mr. Brian Lindsay of the DSF, in order to understand whether membership should change. It was decided that the Affiliate membership will continue as Milk SA cannot meet the obligations of Aggregate membership. (4) Dr. Ohlhoff is doing a situation analysis on the trading of carbon credits to establish if there could be benefits to the dairy industry, and if so, how to implement such a system. A section on carbon credits, tax and trade will also be added to the "Sustainability in the SA dairy industry: A status and progress report". (5) Dr. Meissner will contact farmers to establish if sufficient data was available for a project to evaluate if selection could be done on dairy cows which are more heat stress tolerant or resistant than others. Similarly, he will liaise with a farmer that apparently has had considerable success with utilising genomic selection, in order to promote the use thereof by other farmers. (6) Dr. Meissner, in collaboration with Prof Maritz-Olivier, will start discussions with MSD and Design Biologix, inviting them to come on board with the Brucellosis vaccine project with the view that they could assist with funding and ultimately, the registration of a vaccine. (7) Dr. Chimes in collaboration with others will draw up communiques on FMD and Brucellosis to the DALRDD to suggest measures to deal with the situation (this is reported in his Programme Report on Animal Health and Welfare). In this context, the references to regulations or lack thereof in the FMD letter and the document to the AAMP, should be, according to Dr. Meissner, turned into requests to DALRRD for appropriate, fair, implementable, enforceable and clear regulations applicable to the dairy industry. These suggestions will be included in the communiques. (8) The CEO of Milk SA issues a press release informing the media that Milk SA had taken action in relation to the

FMD outbreak in the Eastern Cape, mentioning that the issues of vaccination, movement of animals as well as abattoirs and slaughtering are being addressed. (This has been done).

For funding source developments see paragraph 2 under Goal 1.

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 are published in the Dairy Mail under the regular Research Column of the Project Manager and others in the Milk Essay.

The April to June 2024 list for THE RESEARCH COLUMN is:

Gas exchange, rumen hydrogen sinks, and nutrient digestibility and metabolism in lactating dairy cows fed 3-nitrooxypropanol and cracked rapeseed.
Effects of dairy farming management practices on carbon balances in New Zealand's grazed grasslands: Synthesis from 68 site-years.
Host and rumen microbiome contributions to feed efficiency traits in Holstein cows.
A comparison of the bio-accessible calcium supplies of various plant-based products relative to bovine milk.
Lactation curves of Montbéliarde-sired and Viking Red-sired crossbred cows and their Holstein herdmates in commercial dairies.
Life cycle inventory of 23 dairy farms in south-western Sweden. SIK-rapport Nr 728 2004.

The April to June 2024 list for DAIRY R & D IN SA is:

GOOD AGRICULTURAL PRACTICE INTERVENTIONS IN THE SA DAIRY INDUSTRY
THE IMPORTANCE OF HOOF TRIMMING DATA IN CLAW LESION INVESTIGATIONS
COW WELFARE IN SUSTAINABLE BREEDING OBJECTIVES
BIOSTIMULANTS ON RYEGRASS – CLOVER PASTURES FOR DAIRYING.
ENVIRONMENTAL SUSTAINABILITY IN THE SOUTH AFRICAN DAIRY INDUSTRY
PRE-CALVING FIBRE-BASED DIETS FOR DAIRY COWS.

The topics of bullets 1, 2, 3 and 5 provide results of projects where Milk SA is involved.

In addition, an article on ENVIRONMENTAL SUSTAINABILITY IN THE SOUTH AFRICAN DAIRY INDUSTRY, was compiled for the Milk Essay.

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 document was updated in April 2024. 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.

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. The sustainability document when updated shows the progress made in R & D and supporting issues which are of relevance to this goal. The April 2024 edition is attached.

No Non-achievements / underperformance has been reported

Income and expenditure statement

Income and expenditure statement	MSA Meissner PRJ-0368 Q2 Report 2024 Expenditure.docx
Unnecessary spending during period	No

Popular Report

[MSA Meissner PRJ-0368 Q2 Report 2024 Popular Report.docx](#)

Additional documentation

[Sustainability in the SA Dairy Industry Status and Progress - April 2024.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