



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

**(PRJ-0094-2016)**

***Dr Heinz H. Meissner***

***Quarter 4 2016*** (October 2016 till December 2016)

### **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***

In the R & D Project on Milk Flocculation discussions were held with various expertise to understand their take on the possibility of biofilms being a significant factor in the evolution of flocculation. This was followed up with a visit to a prominent processing plant where delivered milk often flocculated. The plant is willing to work with Milk SA and in fact is prepared to make available all their managerial, environmental and analytical data over the last couple of years. It is expected that this initiative to support the project will add considerable value to the investigation since it will allow statistical analyses over time and distinguish between main and interaction effects.

In the Project to analyse automatic system data of farmers, it was negotiated with institutions such as Dairy MC and a feed company to assist with extracting data and logistics. This has enhanced the initiative considerably and a Masters project at UP to that effect has been registered.

The co-operation between UP and UKZN on the mastitis projects is satisfactory. Further co-operation will be with the University at Utrecht, which has the capacity to deal with extended databases; a PhD is expected to flow from this initiative. A further addition is that the database of the Mastitis laboratory at OP will be examined to see if the results are suitable to be linked with the Genomics Project, also through a PhD investigation

Brucellosis has been put in the number one spot of being addressed by the DAFF, Animal Health Forum and RUVASA. To that effect a driving committee has been formed to strategize and propose implementation actions. It was proposed to link up with this initiative and therefore the Milk SA project with the CSIR on point-of-care diagnosis is one of the actions that should be taken on board by the Committee.

The Western Cape Department of Agriculture (WCDA) did a survey to establish R & D needs of dairy farmers in the province. Dr van Dijk and the author have been requested to evaluate the outcome and provide input. The survey which was outsourced should be valuable in providing directives for future R & D.

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

**Goal 2 - To guide the R&D programme by means of effective structural**

## arrangements, administration and fund sourcing

### **Achievements**

The second Meeting of the new dispensation, called the Dairy Research and Development Committee (DRDC), was held on 3 November 2016. The Minutes are attached as Annexure 1.

Terms of References were written for the different functionaries supporting decision making and recommendation in the new structure: the Dairy Research Forum (DRF), the Management Committee and the DRDC. To give effect to the Board decision that the MPO will take over the administration, arrangements have been discussed between the MPO CEO and the Programme Manager. The administration will be in full operation as from 1 January 2017.

The R & D needs document and budget as compiled by the Programme Manager for the levy cycle 2018 to 2021 was updated in December, amongst others to give more prominence to bio-security. This is attached as Annexure 2. The proposal is of course dynamic and may change considerably during the course of the period. However, it does provide guidance for effective planning, discussions and negotiations.

## **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**

1. THE RESEARCH COLUMN: The target of scientific articles sourced from the international literature to be entered on the website is two per month. that is 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:

- \* *Effects of automatic cluster removal and feeding during milking on milking efficiency, milk yield and milk fat quality.*
- \* *Effect of time of maize silage supplementation on herbage intake, milk production, and nitrogen excretion of grazing dairy cows.*
- \* *The influence of dietary nitrogen reduction and conjugated linoleic acid supply to dairy cows on fatty acids in milk and their transfer to ripened cheese.*
- \* *Investigation of the antibiotic resistance and biofilm-forming ability of Staphylococcus aureus from subclinical bovine mastitis cases and In vivo screening platform for bacteriocins using Caenorhabditis elegans to control mastitis-causing pathogens.*
- \* *Economic feasibility of cooling dry cows across the United States.*
- \* *Condensed milk storage and evaporation affect the flavor of nonfat dry milk*
- \* *The effect of spray-drying parameters on the flavor of nonfat dry milk and milk protein concentrate 70%.*

2. 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:

- \* KIKUYU - RYEGRASS FOR DAIRYING: IS THERE A RELATIONSHIP BETWEEN SOIL QUALITY AND YIELD?
- \* HERBAGE YIELDS OF ANNUAL RYEGRASS VARIETIES AT OUTENIQUA AND CEDARA.
- \* LUCERNE LEAF MEAL FOR PRE-WEANED DAIRY CALVES
- \* PRELIMINARY RESULTS OF LIVER FLUKE (*FASCIOLA*) RESEARCH PROJECT
- \* CONTROL OF *STAPHYLOCOCCUS AUREUS* BY BACTERIOPHAGES – A PROGRESS REPORT ON THE RESEARCH PROJECT.

## *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, but not the IDF which is administered by SANCIDF**

### **Achievements**

As mentioned in the 3rd quarter report, the DEA developed their "Strategic Plan: Measurement, Reporting and Verification for the AFOLU Sector 2016 to 2020", which addresses targets and time lines for mitigation for the Sector, as well as measures such as taxation if the targets and time lines are not met. The author expressed his concern about the intended taxation on the Agricultural Sector where profit margins are small and agriculture needs to feed the increasing population, and accordingly prepared a Memorandum for discussion at the AgBiz Meeting of 21 July 2016. The Meeting shared the concern and decided to put a team together consisting of members representing the Grain Crops, Horticulture and Livestock sectors to negotiate with the DEA (and when applicable National Treasury) for tax exemption or benefits. The Programme Manager is convener. The first step is to draw up a position paper to illustrate agriculture's commitment to reduce its carbon footprint and provide arguments why the Agricultural Sector should not be taxed. The position paper can then be a point of departure when discussions/negotiations with the DEA and National Treasury commence in 2017.

The representatives of Grain Crops, Horticulture and Livestock separately compiled a piece of the draft paper in November/December, which will be consolidated in February 2017. The piece prepared by the author is attached as Annexure 3.

As discussed early 2016, the author expressed his concern to the Dean of the Faculty of Veterinary Science at OP on the apparent decline in expertise and R & D capacity in Helminthology and parasite resistance. This affects the total Livestock sector, and for the Dairy Industry in particular the liver fluke problem which is one of the R & D projects of Milk SA. The Dean and senior personnel at OP shared the concern and as result a Chair in Helminthology was proposed. To put a Chair in place will take some time and therefore the author proposed that for the interim, a position be created that together with a post-doctoral student could initiate training and R & D work. To that effect a motivation was prepared to strengthen the Dean's hand when discussing the option with University management. The motivation is attached as Annexure 4.

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

## **Income and expenditure statement**

Income and expenditure statement	<a href="#">MSA PRJ-0094 4th Quarter Report Expenditure of Programme Manager R &amp; D 2016 4th Quarter.docx</a>
Unnecessary spending during period	No

## **Popular Report**

[MSA Meissner\\_Popular Report\\_4th quarter 2016.docx](#)

# Additional documentation

No file has been uploaded

## 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