



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

**(PRJ-0133-2017)**

**Heinz Meissner**

**Quarter 1 2017** (January 2017 till March 2017)

### **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 co-operation between UP, consisting of Dr Martin van der Leek, the laboratory of Dr Inge-Marie Petzer and Dr Nenene Qekwana, and UKZN, consisting of Prof Mark Laing and Dr Iona Basdew, on the mastitis projects are bearing fruit. Co-operation has also been expanded to the University at Utrecht, which has the capacity to deal with extended databases; a PhD for Dr van der Leek should result from this collaboration. 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. The 2017 proposal of Dr van der Leek facilitated arrangements with the Allerton laboratory in KZN, where the work of Ms Tracy Schmidt on the interface between human and cow infections have come on board and with Dr Caryn Shacklock, and with the Deltamune Milk Laboratory in Oudtshoorn with Mr Etienne van Zyl. This expanded network for the mastitis programme has added considerable value.

***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 new structural arrangement to deal with the R & D portfolio is working satisfactory. The Dairy R & D Management Committee which deals with day to day issues and advises the Dairy R & D Committee (DRDC), had two meetings, respectively on 17 February and 29 March 2017. The DRDC met on 28 February and the Dairy Research Forum (DRF) on 22 March 2017. All meetings were chaired by the author. Since it was the first Meeting of the DRF which consists of prominent scientists in the industry, the new dispensation was explained to them and they were informed of principles and R & D policy, the 2018-2021 Outlook and what is considered priority R & D fields by the Dairy Industry.

***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, 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:

- 1.1. *Water use on non-irrigated pasture-based dairy farms: Combining detailed monitoring and modelling to set benchmarks.*
- 1.2. *The effect of colostrum storage conditions on dairy heifer calf serum immunoglobulin G concentration and preweaning health and growth rate.*
- 1.3. *Good sensory quality and cheese-making properties in milk from Holstein cows managed for an 18-month calving interval.*
- 1.4. *Effect of gradual or abrupt cessation of milking at dry off on milk yield and somatic cell score in the subsequent lactation*
- 1.5. *Strategies to gain body condition score in pasture-based dairy cows during late lactation and the far-off non-lactating period and their interaction with close-up dry matter intake.*
- 1.6. *The influence of ultra-pasteurization by indirect heating versus direct steam injection on skim and 2% fat milks.*

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. In some instances progress with the research projects was reported. The following themes were covered:

- 2.1. ALLEVIATING HEAT STRESS IN COWS BY SHADE STRUCTURES
- 2.2. LIVE YEAST AS A SUPPLEMENT TO COWS ON LOW AND HIGH CONCENTRATE: ROUGHAGE DIETS.
- 2.3. SURVEY OF QUALITY OF MAIZE SILAGE IN SOUTH AFRICA.
- 2.4. AN APPROACH TO ADDRESS NEMATODE/TREMATODE DRUG RESISTANCE IN SA.
- 2.5. The significance of proteolytic psychrotrophs as a cause of milk flocculation / protein instability.
- 2.6. Biological Control of Mastitis in Cows USING Bacteriophage.

***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 Task Team at Agri SA's Commodity Chamber completed a position paper to illustrate agriculture's commitment to reduce its carbon footprint, provide arguments why the Agricultural Sector should not be taxed, and argued the value of carbon offset programmes including incentive schemes to rather emphasize carbon sequestration/storage as the way forward, since sequestration/storage in agriculture has 2-3 times the potential compared to limiting GHG emissions in reducing agriculture's carbon footprint. The issue has been taken up by the author with officials of the DEA and National Treasury to understand their approach and policy and other supporting documents, and the position paper will be presented to them in April 2017. Draft 3 of the position paper titled: "The Implications of a carbon tax and offset system for Agriculture in South Africa", was completed in early March. The Executive Summary is attached as Annexure 1. With regard to the carbon tax issue, a talk was given at the WCARF Meeting of 16 February 2017 at Elsenburg and the Agri SA Board Meeting of 27 February 2017 at Somerset West.

As discussed in 2016, the Dean and senior personnel at OP shared the concern of the author with regard to the aging expertise in Helminthology as result of which 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 postdoctoral student could initiate training and R & D work. To that effect a motivation was prepared by the author. Discussions with relevant parties continued during the first quarter but progress is slow.

Comprehensive input was provided to a strategic document of the Animal Production Institute (API) of the ARC, called: "Dairy Science Research and Development Draft Strategy 2017-2019". As this document was developed without consulting the Dairy Industry, the author and DRDC members gave the opinion that the API should rather align with the R & D Outlook 2018-2021 of the industry, instead of developing a R & D strategy in isolation.

Similarly, comprehensive input was provided by the author to the Animal Production Directorate of the DAFF on: "DRAFT: POLICY FOR THE SUSTAINABLE MANAGEMENT OF VELD (RANGE) AND FORAGE RESOURCES IN SOUTH AFRICA". Effective management and improvement of forage resources is a priority R & D subject in the 2018-2021 R & D Outlook of the Dairy Industry.

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

## Income and expenditure statement

|                                    |   |
|------------------------------------|---|
| Income and expenditure statement   | <a href="#">MSA Meissner PRJ-0133 First Quarter Report Expenditure.docx</a> |
| Unnecessary spending during period | No  |

## Popular Report

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## Additional documentation

No file has been uploaded

## Statement

|  |     |
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| 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 |