



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

**(PRJ-0214-2018)**

***Dr Heinz Meissner***

***Quarter 1 2018*** (January 2018 till March 2018)

**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***

With regard to funding, the limited funds of Milk SA may prove useful to leverage funding from other sources. It was mentioned in the fourth quarter report of 2017 that a project proposal of the University of Stellenbosch (US) on eco-efficiency of dairy pasture systems was expanded into a full scale R & D programme which, if we are successful in obtaining funds, will be run jointly by the US and Milk SA. The title of the programme is SUSTAINABILITY OF PASTURE-BASED DAIRY SYSTEMS OF THE EASTERN AND SOUTH-EASTERN COASTAL AREAS OF SOUTH AFRICA, and as the title implies, practically the whole of the pasture-based area of the country will be captured. In the programme subsections will deal with the Environment, Efficiency of Milk Production and Animal Health with several current and future projects being accommodated within the subsections. The theme of "Sustainability" aligns well with the principal strategy of the IDF to which we have a commitment. For possible funding the British High Commission which liaises with several British overseas funding agencies was approached. As the possibility of funding at this stage does not appear to be promising, we also pursued other possibilities. A programme was therefore put together in the first quarter of 2018 to be presented to the SANBI, which is the SA Agency for the international Green Climate Fund (GCF). The Programme: CLIMATE AND ECO-RESILIENCE OF DAIRY PRODUCTION, now concentrates on combating climate change, but still including a "sustainability" theme. The total dairy production system, including both pasture-based and TMR systems has been included. Submission to SANBI will be at the end of April 2018.

In terms of the goal to limit fragmentation and promote cooperation between R & D capacities, the programme is as comprehensive as the submission to the British High Commission, but the participants will differ as the theme was altered to meet the objectives of the GCF. It will include expertise and capacities at the US; Christian-Albrechts-University, Kiel, Germany; the Western Cape Department of Agriculture; Nelson Mandela University; Trace & Save (Woodlands Dairy); Agreplan; WWF Mondi Water Stewardship Partnership and WWF-SA Sustainable Agriculture; GroundTruth KZN; FARMSystem Hinck & Kielhorn, Osnabrück, Germany; University of Pretoria; Dung Beetle Innovations, Auckland, New Zealand; University of the Free State; Grain SA and the KZN Department of Agriculture and Rural Development.

***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***

Fund sourcing has been reported under Goal 1.

The R & D Management Committee (MANCOM) usually meets officially about two weeks before the DRDC Meeting as it needs to inform and advise DRDC members. The author also meets regularly with the CEO of the MPO on administrative matters. The MANCOM met on 14 February and the DRDC on 6 March 2018. The author also regularly attends the Western Cape Agricultural Research Forum (WCARF), where research and funding opportunities are discussed, in addition to MoU arrangement matters with the WCDA. The Meetings of 15 February amongst others addressed difficulties with Getting access to THRIP funding, the projects at Outeniqua Research Station and the participatory role of the WCDA in the CLIMATE AND ECO-RESILIENCE OF DAIRY PRODUCTION discussed under Goal 1. The MANCOM and DRDC Meetings paid attention to project budgets and unspent funds of 2017 and how to deal with them, the 2018 budget, new project proposals, quarterly and annual reports of researchers and longer term visions. As funds are limited, the author also discussed options of joint initiatives such as the Programme Proposal mentioned under Goal 1.

Significant to the report is the decision by the MANCOM and DRDC that the author should compute the enteric methane production of the national dairy herd and write a summarized report of the progress with all research funded in 2017. These are attached as Annexures 1 and 2 respectively.

### ***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) *Meta-analysis to predict the effects of metabolizable amino acids on dairy cattle performance.*
- 2) *Efficacy of colostrum replacer versus maternal colostrum on immunological status, health, and growth of preweaned dairy calves.*
- 3) *Plant oil supplements reduce methane emissions and improve milk fatty acid composition in dairy cows fed grass silage-based diets without affecting milk yield.*
- 4) *The effect of different pre-cooling rates and cold storage on milk microbiological quality and composition.*
- 5) *Evaluation and validation of an automatic jaw movement recorder (RumiWatch) for ingestive and rumination behaviours of dairy cows during grazing and supplementation.*
- 6) *Addition of meloxicam to the treatment of bovine clinical mastitis results in a net economic benefit to the dairy farmer.*

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:

- a) TO WHAT EXTENT CAN CITRUS PULP REPLACE MAIZE IN THE DAIRY COW CONCENTRATE?
- b) MILK SA: R & D STATUS QUO AND OUTLOOK FOR THE STATUTORY LEVY CYCLE OF

2018 TO 2021.

c) ARE GOALS OF ECONOMIC EFFICIENCY AND ENVIRONMENTAL SUSTAINABILITY COMPATIBLE?

d) AN UPDATE ON THE VALUE OF STARCH AND LIPID ADDITION TO THE COW DIET.

e) SUMMARIZED REPORT OF PROGRESS WITH PROJECTS FUNDED IN 2017.

f) SPOILAGE POTENTIAL OF BACTERIA ISOLATED FROM DAIRY PRODUCTS.

The reader will notice that the DAIRY R & D IN SA column is also used to report progress on the research carried out and funded by Milk SA

## **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**

The author responded to a draft government regulation which proposed that the grass species *Lolium multiflorum*, *Lolium perenne* and *Cynodon dactylon* be regarded as category 2 invaders. These species have been used by dairy farmers over many years. After liaison with the MANCOM, the author responded to the proposal as follows:

**From:** Heinz Meissner [mailto:heinzmeissner@vodamail.co.za]

**Sent:** 08 March 2018 02:55 PM

**To:** 'NembaRegs@environment.gov.za'

**Cc:** 'chris.vandijk@mpo.co.za'; 'Alwyn Kraamwinkel'; 'Nico Fouche'; 'Edu Roux'

**Subject:** RE: Classification of grasses as invaders

"Dear Sir/Lady,

On behalf of the Dairy Industry of South Africa, I wish to raise my concern that as observed in the government gazette notice of 16 February of the Minister of Environmental Affairs, wherein is published Draft Alien Invasive Species regulations in terms of section 97(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), that the grasses ***Cynodon dactylon*, *Lolium multiflorum* and *Lolium perenne*** are recommended to be added to the **National List of Invasive Terrestrial and Fresh-water Plant Species as category 2 invaders**. This implies that according to the definition on page 6 of document no. 112, these species for propagation and seed distribution will in future require a permit from the Dept. of Environmental Affairs (DEA).

I wish to draw your attention that these grasses, especially *Lolium multiflorum* and *L. perenne*, have been cultivated in pastures for dairy cattle for more than 40 years, in either monoculture or in combination with grasses such as kikuyu or legumes such as clover spp. In fact, producing milk from such cultivated pastures is the preferred production system in the south-eastern seaboard where more than 50% of the milk of the country is produced. **The long history of cultivation indicates that these species have not caused significant problems, if any, as potential invaders**. Acknowledging that the proposal is only for a category 2 invader, and therefore not considered to be a major concern by the DEA, I nevertheless wish to point out that the time-consuming procedure of obtaining permits by the many farmers and seed distributors, as well as the work load by the designated office at the DEA, will have a significant negative impact on sustainability and profitability of farming enterprises and in fact even regular delivery of milk to the consumer.

In view of the arguments above, I wish to urge the DEA to reconsider the proposal of listing these species as Category 2 invaders. Thank you.

Kind regards,

Dr Heinz Meissner (Milk SA Programme Manager R & D)".

Although the SANCIDF responsibilities are not reported here as indicated by Goal 1, it is maybe

informative to members of the DRDC and the Board to include the annual report in the first quarter report of the next year, as the activities reported on have relevance to the 'Sustainability' issues we wish to address in the R & D programme. The annual report of 2017 is attached as ANNEXURE 3.

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

## **Income and expenditure statement**

Income and expenditure statement	<a href="#">MSA Meissner_PRJ-0133 Q4 Report Expenditure 2017.docx</a>
Unnecessary spending during period	No

## **Popular Report**

[MSA Meissner\\_PRJ 0214\\_Q1 Popular Report 2017.docx](#)

## **Additional documentation**

[MSA Meissner\\_PRJ-0214\\_Q1 Report 2018\\_ANNEXURE 1\\_Methane scenarios of milk production in SA\\_2017.docx](#)

[MSA Meissner\\_PRJ-0214\\_Q1 Report 2018\\_ANNEXURE 2\\_Summarized progress 2017.docx](#)

[MSA Meissner\\_PRJ-0214\\_Q1 Report 2018\\_ANNEXURE 3\\_SANCIDF Annual Report 2017.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