



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

**(PRJ-0287-2021)**

***Dr Heinz Meissner, Milk SA***

***Quarter 3 2021 (July 2021 till September 2021)***

**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 TIA indicated that they want to support the Programmes: Animal health and welfare, Milk quality and safety, and Innovative dairy products of the Dairy R & D project. The contact person approached the CEO of Milk SA and the Project Manager R & D to continue with discussions and requested input on aspects such as Transformation in the institutions providing R & D services to Milk SA. We considered this request unfair and of course do not have control over such matters in these institutions. Therefore, after consultation in the R & D Management Committee, the decision was to end all further negotiations and the TIA was informed accordingly.

The contracts of all 12 projects mentioned in the 2nd Quarter Report have now been signed and the projects are being executed. The Project Manager R & D is in person involved with the projects: The practical implementation of requirements of the South African National Standard SANS 1694: The welfare of dairy cattle validation by using the dairy Standard Agency (DSA) audit - the welfare of dairy cattle; Buffer zones for wetland structures for wetland and river protection on dairy farms, and Systems dynamic approach on environmental indicators on dairy farms - by providing input and advice. Projects done by the UKZN, however, remain a challenge, as nobody at the legal office appears to find time to sign the contracts.

Two new projects which will commence are: (1) Use of NIR to Detect and Quantify Mastitic Bacteria in Cows' Milk, and (2) A comparative analysis of the nutrient and resource use footprints of dairy and plant-based substitutes.

For a number of years the R & D Project of Milk SA has paid particular attention to Mastitis and Milk flocculation. The Project Manager R & D has summarized the outcomes and implications of this work. See the appropriate attachments.

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

**Goal 2 - To guide the R&D program by means of effective structural arrangements, administration and fund sourcing**

***Achievements***

A MANCOM Meeting was held on 11 August and the DRDC Meeting on 25 August 2021. Some of the issues discussed and resolutions taken include: 2022 Funds for currently running projects be transferred to either the administration fund at the MPO or a provision account at Milk SA; The administration of the R&D programme be moved back to Milk SA before the end of the year at Mr. Fouche's discretion; The secretariat be moved to Milk SA at the end of 2021 but that it be discussed with Mr. Roux if extra capacity should be needed; Dr. Meissner present the updated document reflecting completed- running- and planned projects as well as a more popular version and a document showing animal health, animal welfare and environmental sustainability projects to the Board [The document is attached as an Annexure to the Quarterly Report]; Dr. Meissner prepare a two page document on the challenges for the animal industries and more specifically the dairy industry under conditions of global warming [Attached as an Annexure to the Quarterly Report], and The Mancom should in future place more emphasis on the extension aspect of research by, after completion of each project, to consider how the research results can be applied in extension work or information transfer.

## **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, meaning 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) *Breeding for reduced methane emission and feed-efficient Holstein cows: An international response.*
- 2) *Effects of supplemental calcium gluconate embedded in a hydrogenated fat matrix on lactation, digestive, and metabolic variables in dairy cattle.*
- 3) *The effect of fertilizer nitrogen input to grass-clover swards and calving date on the productivity of pasture-based dairy production.*
- 4) *Antibiotic use and potential economic impact of implementing selective dry cow therapy in large US dairies.*
- 5) *The effects of improved performance in the U.S. dairy cattle industry on environmental impacts between 2007 and 2017.*
- 6) *The welfare of dairy cattle housed in tiestalls compared to less-restrictive housing types: A systematic review.*

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) POSSIBLE CHANGES IN HEARTWATER DEMOGRAPHICS AND CONTRIBUTING FACTORS.
- b) THE RELATIONSHIP BETWEEN THE BLOOD PROFILE AND PERIPARTUM STRESS
- c) TURNIPS MAY CAUSE PHOTOSENSITIVITY IN COWS.
- d) MASTITIS ECONOMICS IN SOUTH AFRICAN DAIRY HERDS
- e) HOW DID COVID-19 AFFECT CONSUMER CHOICES AND DAIRY PRODUCT MOVEMENT?
- f) WHAT IS REALLY IMPORTANT FOR LONG TERM SUSTAINABILITY IN THE DAIRY INDUSTRY?

## **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**

### ***Achievements***

The document: What is really important to ensure sustainability in the Dairy Industry?, compiled by the author, is also relevant here. The document is attached.

The author is a judge in the annual stewardship awards of the MPO; the assessment and farmer visits were in September 2021.

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

**Goal 5 - To support the dairy sector with R & D and advice on matters affecting sustainability. These include: Environmental – greenhouse gas reduction, carbon sequestration & storage, water and pasture fertilization efficiencies, waste and effluent reduction and treatment, and ecosystem and biodiversity protection ; Animal welfare – the internationally acknowledged five freedoms (freedom from: a. thirst, hunger & malnutrition; b. discomfort; c. pain, injury & disease; d. to express normal behaviour, and e. fear & distress) are the point of departure**

### ***Achievements***

The strategic document: "Sustainability in the SA Dairy Industry: A status and progress report", is updated every six months. This was done in June, but because of important progress, again in August 2021.

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

## **Income and expenditure statement**

Income and expenditure statement	<a href="#">MSA Meissner_PRJ-0287_Q3 Report_2021_Expenditure.docx</a>
Unnecessary spending during period	No

## **Popular Report**

[MSA Meissner\\_PRJ-0287\\_Q3 Report\\_2021\\_Popular Report.docx](#)

## **Additional documentation**

[MSA Summary of Research Progress with Mastitis 2015 to 2021.docx](#)

[MSA Summary of Research Progress with Milk Flocculation and Age Gelation 2017 to 2020.docx](#)

[MSA R & D Projects - Report & Status August 2021.docx](#)

[MSA Meissner\\_What is really important to ensure sustainability in the Dairy Industry\\_First draft.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