



## **Co-ordination, Support and Promotion of Needs-driven R&D development in the SA dairy industry**

(PRJ-0059-2014)

**Milk South Africa**

**Quarter 3 2014** (July 2014 till September 2014)

### **Project goals**

**Goal 1 - To accumulate and publish existing domestic and international scientific knowledge of applicable and practical value to enhance the industry.**

**Achievements** *Tasks: i. Updating information on the website from the seven most relevant international scientific journals, as previously identified. Fifty research titles per month will be added. ii. The listing of publications and articles of a popular-scientific nature which would be of functional value to the South African dairy industry. iii. Research results of importance to the industry will be sourced from local and international sources and interpreted and popularized on the website monthly under the heading "The Research Column". One (1) article per month will be added to The Research Column. A nutshell interpretation will also be extracted from the aforementioned (Tasks i to iii), for publication in for example the Milk Essay and Milk SA's website. iv. The R & D capacities in SA, their publications and the work that they are busy with will be updated biannually on the website. This will be done in July before the Forum meetings. (This task will not be executed in 2014, as it was done in 2013).*

Task I. Updating information on the website - target 50 research titles per month.

A total of 155 articles were sourced from July to September 2014. Target was met.

Task ii. Listing of publications of a functional value.

Regular scans are done and put on the website under the title: "Dairy R & D in SA". For the reporting period five articles were sourced. Target was met. [See Attachments]

Task iii. Results of importance interpreted in "The Research column", one per month.

Three contributions were made, one per month from July to September 2014 - target met. [See Attachments]

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

**Goal 2 - To limit research fragmentation and encourage cooperation between R & D capacities towards achieving the strategic goals of the industry.**

**Achievements** *Tasks: i. To communicate with R&D institutions in South Africa to promote R&D in line with the strategic direction of Milk SA and to promote appropriate interaction and co-operation between the relevant institutions. ii. Co-operative Research Networks (CRN's) and the development thereof will be encouraged*

**Non-achievements / underperformance**

Task iii: The Forum was cancelled

**Reasons for non-**

*to increase the chance of project funding and to ensure anticipated deliverables and outcomes - as well as to see how the transformation objectives can best be achieved in so far as R & D can support or add value. iii. The annual R & D Forum where the most prominent researchers and industry leaders will discuss strategic direction and relevant research results will be arranged in the second half of 2014.*

Task i: To communicate with R & D institutions and promote co-operation.

The MoA arrangement with the Western Cape Department of Agriculture (WCDA) is functioning well. A dairy farmers workgroup planning research in collaboration with WCDA officials has also been established. A further outcome of the collaboration with the WCDA is that the Programme Manager is a member of their Agricultural Research Forum (WCARF) that meets biennially. A similar MoA arrangement as with the WCDA is still being negotiated with The Eastern Cape Department of Rural Affairs and Agrarian Research (ECDRA&AR). With regard to the KZN Department of Agriculture and Social Development (KZNDASD), discussions are in progress and it was agreed that a MoA is the way forward. The format, however will be somewhat different to those of the other two provinces as a MoA between the KZN MPO and the KZNDASD is already functioning. The three departments are also in favour of working together through the SESCORDER initiative of Milk SA and with relevant tertiary institutions under the guidance of the Program Manager R & D to better serve the interests of the south and eastern seaboard pasture-based dairy systems. To that effect the T.o.R. for SESCORDER has been completed and signed. The three provinces mentioned, Amadlelo Agri, the University of Fort Hare and four commercial farmers of the region are participating. It is foreseen that other farmers and study groups in future may also want to join. What is important in the mentioned activities is that all institutions endorsed the goals and strategic direction of Milk SA. Discussions and decisions that Milk SA and participants need to attend to are in the Minutes of the SESCORDER Meeting of 25 July 2014. [See Attachments]

Task ii: The development of Co-operative Research Networks (CRN's) encouraged.

The MoA and SESCORDER arrangements discussed under Task i serve as two examples of how CRN's are being promoted. A further example of CRN encouragement is the research projects currently in the system and those approved by the RPEC to be submitted to the Board for funding. The value of the approach is that the RPEC wants to ensure that the best possible expertise and capacities are involved with the project, secondly, that as many students as possible can be trained to build capacity and serve the interest of transformation and thirdly, that it will improve the chance of finding external funding if the amount which can be allocated by Milk SA is insufficient.

Task iii: The annual R & D Forum scheduled for August 2014

It was decided to cancel the Forum.

## **achievements / underperformance**

It was considered that progress of research projects was as yet insufficient to warrant the substantial budget outlay of a forum meeting.

## **Planned remedies for non-achievements / underperformance**

A Forum Meeting will again be considered in 2015

### **Goal 3 - To guide the R & D programme by means of effective structural arrangements, administration and fund sourcing.**

**Achievements** *Tasks: i. Chair the Research Project Evaluation Committee of Milk SA (RPEC). ii. The administration of R & D requires guidance on structural arrangements, evaluation of project proposals and reports, negotiations on IP, contracts and publication of results. iii. Submission of project proposals will be facilitated by the office of Milk SA; proposals will be evaluated by the RPEC and recommended by the RPEC to the Milk SA Board of Directors for approval and possible financial support. iv. R & D institutions will be guided through the required processes and contracts be concluded with successful applicants. v. Milk SA's funds for R&D are limited. Sourcing from other institutions is possible, but the process and procedures differ and therefore guidance to the researchers and Milk SA is required. This will be done for approved projects.*

Task i: Program Manager R & D chairs the RPEC

The RPEC had two Meetings in the third quarter, respectively on 2014/08/12 and 2014/09/17. The Minutes are provided as Attachments. Progress was also reported at the R & D Advisory Committee Meeting of 2014/09/08.

Task ii: Guidance to the administration of R & D.

This is done on a continuous basis. In the reporting period much attention was given to communication with the project leaders of the three project proposals recommended by the RPEC for funding. See Task iii for details.

Task iii: Submission and evaluation of project proposals

In the reporting period the third progress report of the project: the "National Disease Monitoring and Extension System" was evaluated which was the first report of the new contract finalised for the remainder of the fin year. The project on the "Microbiological Quality of Milk" has only started recently and the first progress report is only expected early in 2015. The three project proposals approved by the RPEC for possible funding in the Meeting of 2014-09-17 with the Project Leaders (in brackets) are:

- "Fasciola hepatica: Impact on Dairy Production and Sustainable Management on Selected Farms in South Africa" (Dr Jan van Wyk, Onderstepoort)

- "Resistance to available antibiotics in lactating cows with mastitis" (Dr Martin van der Leek, Onderstepoort)

- "Investigating alternative methods such as bacteriophages and bacteriocins to control mastitis organisms" (Prof Mike Laing, UKZN).

In discussions with the Project Leaders, they were encouraged to form CRN's if appropriate. This was accepted. For example, in the project on mastitis of Prof Laing on bacteriophages, they will source mastitis organisms from the selection of the Dairy Laboratory at Onderstepoort and otherwise collaborate with Drs van der Leek and Petzer, in addition to other Departments at UKZN. Dr van der Leek will work with Ampath Laboratories and the University of Utrecht in the Netherlands. Dr van Wyk will work with several practicing veterinarians in the south-eastern Cape and is negotiating with expertise at a University in Belgium.

With the fourth project proposal: "Prevalence of and reasons for milk flocculation after heat treatment", a different approach has been followed. Prof Robin Meeske of WCDA, Outeniqua who initially has been identified as Project Leader since his group has done some preliminary work, requested a brain storming session because of the complexity of the problem and the lack of literature on the subject. Subsequently, a workshop was arranged for 2014-09-17 with several knowledgeable persons and persons with experience of milk flocculation. [See the Minutes attached]. Broadly, three areas where possible causes for flocculation could originate were identified: nutrition of the cow, microbiological contamination (primarily Psychrotrophs) and chemical/enzymatic (plasmin, protease) activity with heating in milk. These areas will be further investigated, with respective conveners Prof Meeske, Prof Piet Jooste and Dr Koos Myburgh, and project proposals compiled.

Task iv: R & D institutions will be guided through the required processes

This has been done in discussions with the Project Leaders and will continue.

Task v: Sourcing of funds.

This will be done once the need arises. Currently the two projects in the system (National Disease Monitoring and Microbiological Quality) are funded by Milk SA according to request.

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

**Goal 4 - To participate in the Water Research Commission's study on water and wastewater management in the South African dairy industry in which the Programme Manager acts as evaluator on behalf of the SA dairy industry; and to continue to support an MBA student with her dissertation titled "The quantificati**

**Achievements** *Tasks: i. Coach the MBA student in the approach to and execution of the dissertation. ii. To provide input as required by the Water Research Commission and its contractor, the University of KwaZulu-Natal.*

Task i: Coach MBA student

Nothing required in reporting period.

Task ii: Provide input to WRC and UKZN

The first report of UKZN to the WRC was on 2014-07-31; the Meeting which was attended by the Programme Manager. The study is about one third completed. The report is attached

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

**Goal 5 - Reporting to and from the International Dairy Federation (IDF) on Sustainability and the Environment, including the activities of the Scientific Committee on the Environment (SCENV) and the South African dairy industry's commitments to the Global Dairy Agenda for Action (GDAA).**

**Achievements** *i. Provide South African water footprint data as obtained from the initiative under 3.4 and carbon footprint data obtained from the National R&D Programme on Climate Change to the IDF (in accordance with the IDF-LCA Methodology). ii. Promote mitigation activities in the South African dairy supply chain through communication and supporting articles (e.g. as under Task 3.1 iii). iii Report to and from the IDF on R & D and providing input into key documents on GHG emissions and environmental sustainability in the dairy supply chain (ad hoc). iv. IDF related information relating to R&D - including Sustainability and the Environment will constantly be scrutinized and taken care of as required.*

Task i: Provide SA water and carbon footprint

The calculated figures on GHG as published in the SA Journal of Animal Science were provided to Dr Delanie Kellon of the IDF and to the Department of Environmental Affairs as the official SA figures.

Task ii: Promote mitigation activities.

This is done with regular intervals. For example the September edition of "The Research Column" (attached) touches on the topic. Mitigation options have also been included in the RPO-NERPO Code of Best Practices written by the Programme Manager in the reporting period ([www.rpo.co.za](http://www.rpo.co.za)) and the monthly RPO Newsletter.

Tasks iii and iv: Reports to the IDF, GDAA and the IDF-FAO alliance.

The IDF-GDAA's initiative on the Dairy Sustainability Framework (DSF): Membership was taken up by the SANCIDF of the DSF during the reporting period. Otherwise, due to the cancellation of WDS2014 in Tel Aviv, preparation of documents and other activities of the GDAA and the IDF - SCENV have been delayed. Nevertheless, input was provided to the document: "IDF Strategic Review: Prioritization of current and future IDF work" and "The framework for action of ICN2 (International Conference on Nutrition)" [see consolidated IDF recommendations attached, the contribution of the Programme Manager in bold]

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

# Income and expenditure statement

Income and expenditure statement	No file has been uploaded
Unnecessary spending during period	No

## Popular Report

No file has been uploaded

## 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