



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

(PRJ-0133-2017)

Heinz Meissner

Quarter 2 2017 (April 2017 till June 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

PROMOTION: (1) R & D has been promoted by initiating capacity building at the Onderstepoort Veterinary Faculty to support research in parasite resistance as both resistance to antibiotics and anthelmintics are progressively experienced. Over the longer term a Chair is envisaged but for the immediate need, a postdoctoral position has been created. (2) Environmental sustainability including the climate change issue is a major priority. Together with an initiative of the author at Agri SA to stimulate work on carbon storage and sequestration and an IDF-DSF initiative to monitor several metrics such as soil health, pollution and water usage and quality on pasture-based systems which the author is involved with, a project proposal by the University of Stellenbosch and co-workers is envisaged. (3) The organisms *Candida albicans*, *E. coli* 0157H and *Listeria monocytogenes* pose serious health issues. They are also difficult to contain, but probiotic species and strains offer a possibility. Such species and strains can be incorporated in yogurt as the technology is well known. This is envisaged in a project proposal discussed with the University of Pretoria, UFS and TUT. The added advantage is that such enriched yogurts may broaden the market which is a prime objective of the R & D programme.

LIMIT FRAGMENTATION AND INITIATE CO-OPERATION: (1) The T.o.R of the Dairy Research Forum (DRF) which is part of the R & D Programme structure is:

- To propose and evaluate R & D programmes, projects and supporting initiatives.
- To promote co-operation between institutions and disciplines in project application and approved projects.
- To suggest or where applicable make human, financial, capital and infrastructural resources available as required - including dairy facilities.
- To advise the Management Committee of the core R & D structure of Milk SA of projects supported and other relevant information of value to the R & D initiative.

The T.o.R implies that the intention is to limit fragmentation and to promote co-operation. In the first two meetings of the DRF in 2017, the chairperson (author) dealt extensively with this vision and outlook towards 2020. This has been met with some enthusiasm and buy in, and in some project proposals we now see more co-operation than previously. (2) The mastitis R & D projects include a number of initiatives which can both be expanded and better co-ordinated. This was the intention of a workshop on mastitis initiated by the author. The workshop formed part of the SALHC 2017 proceedings of 4-7 June at Champagne Sports Centre where the different project

members got to know each other, discussed co-operation and suggest facilities which can be shared.

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 an official meeting on 15 May 2017 and liaised informally on several occasions during the report period. The DRDC met on 18 April. The Minutes is attached as Annexure 1. The second meeting was cancelled due to the SALHC 2017 but the Dairy Research Forum (DRF) met during the Conference, on 7 June 2017. All meetings were chaired by the author. At the Meeting of the DRF which consists of prominent scientists in the industry, the T.o.R was again explained, ideas on research were shared and the 2018-2021 R & D Outlook, which was discussed at the first meeting and updated by the author following inputs by members at the first Meeting, was tabled (attached as Annexure 2). The updated version which contains current projects and priorities towards 2021, also shows what is being done at provincial institutions for national interest. Working with these institutions such as part of the milk flocculation programme with the Western Cape, assists with funding as the budget is shared. The Technology Innovation Agency is funding the Genomics programme in toto, whereas the benefits accrue to 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:

- * *Effects of automatic cluster removal and feeding during milking on milking efficiency, milk yield and milk fat quality.*
- * *Microbiological quality of raw milk attributable to prolonged refrigeration conditions.*
- * *Safety of milk-derived bioactive peptides.*
- * *Milk is good for you.*
- * *Risk factors associated with postpartum subclinical hypocalcemia in dairy cows.*
- * *Prediction and validation of residual feed intake and dry matter intake in Danish lactating dairy cows using mid-infrared spectroscopy of milk.*

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:

- * **FORCED GEOGRAPHICAL DISTRIBUTION OF DAIRY PRODUCTION IN SOUTH AFRICA DUE TO CLIMATE CHANGE**
- * **BLOOD PROTEIN CONCENTRATIONS IN SMALLHOLDER JERSEY COWS.**

- * The 2016 Milk SA MPO Mastitis Survey – General Udder Health
- * IS THEIR MERIT IN CROSSBREEDING?
- * EFFECTIVE MANAGEMENT OF MASTITIS ON FARM CAN REDUCE ANTIBIOTIC RESISTANCE.
- * SURVIVAL OF ACID AND SALT STRESSED LISTERIA MONOCYTOGENES IN CHEESE.

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 lead by the author 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. There were some delays with publishing the document as some senior staff at Agri SA retired from the organization on 1 April. However, it is now ready and Board members can contact the author to obtain the electronic version. A few hard copies will also be distributed. [The Executive Summary was attached to the Quarterly Report of the first quarter]. As the way forward, the author on behalf of Agri SA senior management will present the position paper to the Dept of Environmental Affairs (DEA), DAFF and National Treasury. The relevance to the Dairy Industry is that if the recommendations of the author with regard to carbon storage and sequestration are accepted, the DEA may wish to financially support monitoring projects on dairy farms, whereas National Treasury may be the point of entry for carbon offset projects.

Input was provided to the document of the task team lead by Mr Kraamwinkel, titled: "Overview of the interaction of Milk SA and its members namely the MPO and SAMPRO, with the initiative of the Trade and Industry Chamber of the National Economic Development and Labour Council (NEDLAC) in respect of the Dairy Industry and issues for consideration by Milk SA".

As discussed in 2016, the Dean and senior personnel at the Veterinary Faculty, OP shared the concern of the author with regard to the aging expertise in Helminthology as result of which a Chair in Parasite Resistance 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. The position could not be created due to lack of funds, but the postdoctoral student will be identified who can initiate work in parasite resistance.

The author together with Dr van Dijk provided input into the Discussion Paper on The Review of Bovine Brucellosis Control in South Africa.

No Non-achievements / underperformance has been reported

Income and expenditure statement

Income and expenditure statement	MSA Meissner_PRJ-0133 Second Quarter Report Expenditure .docx
Unnecessary spending during period	No

Popular Report

[MSA PRJ 0133 Q 2 2017 Co-op and support Meissner.docx](#)

Additional documentation

[MSA DRDC Minutes_2017-04-18_ANNEXURE 1.docx](#)

[MSA R & D Outlook 2018 to 2021_June 2017_ANNEXURE 2.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