



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

(PRJ-0094-2016)

***Dr Heinz H. Meissner***

***Quarter 2 2016*** (April 2016 till June 2016)

### **Project goals**

**Goal 1 - To limit research fragmentation and promote and initiate cooperation between R&D capacities towards achieving the strategic direction of the industry**

#### ***Achievements***

A. THE LIVER FLUKE PROGRAMME: The programme consists of two projects: (1) *Fasciola hepatica*: Impact on Dairy Production and Sustainable Management on Selected farms in South Africa, with Dr Jan van Wyk of OP as Project Leader, and (2) Integrated Control of Liver Flukes of Cattle using Botanical Extracts and Bio-control Agents, with Prof Mark Laing of UKZN as Project Leader and post-doctoral student Dr Mawahib Ahmed as the responsible researcher. It appeared logical to promote cooperation since the sampling and surveillance activities of (1) are important for (2) as well. In addition, the outcomes of (1) will provide seasonal information, distribution and sensitivity criteria of the *Linnaeus* intermediate host (snail) of *Fasciola*, which would be of value in strategizing the approach to finding and implementing bio-agents which would kill or control *Linnaeus*. It is anticipated that the co-operation should streamline operating procedures, timelines and costs, also since a combined application to the THRIP programme of the DTI could be submitted.

B. THE MASTITIS PROGRAMME: This programme also consists of two projects: (1) Resistance to available antibiotics in lactating cows with mastitis, with Project Leader Dr Martin van der Leek of OP, and (2) Investigating alternative methods such as bacteriophages and bacteriocins to control mastitis organisms, also with Prof Mark Laing of UKZN as Project Leader and Post-doctoral student Dr Iona Basdew as the responsible researcher. Identification and characterisation of the important mastitis organisms as affected by season, locality and possible resistance to antibiotics in the market are priority activities of both projects and therefore co-operation in sending critical organisms to both laboratories are critical. The arrangement appears to function well and, as with the Liver Fluke Programme, this enabled a combined application to the THRIP programme.

C. THE GENOMICS PROJECT AS PART OF THE IDAPIP\*: The Genomics Project is conducted on behalf of the Dairy Industry with UP (Prof Este van Marle-Koster) as the driver in terms of managing the TIA allocated funds. They have contracted other service providers with expertise from tertiary institutions, the ARC and SA Studbook. The MPO supports management of the project by assisting with commitment of the participating breed societies and other members with milk recording data to ensure a viable reference population which is required to facilitate GEBV values. Of significance is that Ms Robyn Joubert, editor of The Dairy Mail, will have the opportunity to participate in the project and may obtain a PhD on some of the resulting data. This project is an excellent example of a network of expertise and capacities put together towards achieving the goal [\*Integrated Dairy Animal Performance Improvement Programme].

D. CO-OPERATION WITH OTHER LIVESTOCK SECTORS: Brucellosis is a major concern of

all ruminant livestock sectors. In the five year research plan of Milk SA inroads into the problem of brucellosis was supported by the Board. Discussions were initiated in 2015 with the CSIR where research is being done to develop a rapid on-site diagnostic tool to diagnose brucellosis and other diseases. The CEO's of the Red Meat and Wool sectors supported the initiative and discussions will soon be held with the Animal Health Forum and DAFF, together with the CSIR to take this initiative forward. In the mean time it has been decided that the Dairy Industry will supply half of the budget requested by the CSIR, whereas the Red Meat Industry will be responsible for the other half. Sites for initial sampling and testing have been identified in the Harrismith area.

## **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**

A. MEETINGS: The RPEC met on 17 May 2016. The author chairs the RPEC Meetings. The Minutes of the Meeting is attached as Annexure 1. One of the discussion items was the financial status of the R & D programme, which could result in the closing or scaling down of some projects. As mentioned above an application to the THRIP programme of the DTI was submitted, which if successful could go a long way in relieving the problem. The outcome of the application is expected towards the end of July 2016. Another discussion item which will affect the future functioning of the R & D Programme, was the resolution that the RPEC should review its name, role, functions and reporting structures. The resulting new structural arrangement which in the mean time has been approved by the Board is in the Attachment to the Minutes (see Annexure 1). The main principles are: (a) the Advisory Committee R & D will fall away; (b) the RPEC will be replaced by a R & D Committee with increased representation to accommodate in addition to the functions of the RPEC, also advisory and recommendation functions; (c) a Steering Committee consisting of the R & D Manager, the CEO of the MPO and the CEO of the SAMPRO will screen R & D proposals from industry and elsewhere before submitting to the R & D Committee; (d) the SESCORD will be replaced by a Research Forum consisting of industry and expert members; (e) R & D proposals from the MPO members will be submitted directly to the Steering Committee from provincial structures instead of through the National Producers R & D Committee - the latter which will fall away; the MPO will do the administration of the R & D Programme to relieve the burden on the Milk SA office.

B. MoA's: The MoA with the KZN Department of Agriculture after several months of delay has been signed. The MoA discussions with the Eastern Cape have been discontinued as there have been no response. The MoA's with the ARC and SA Studbook will be revisited in due course.

C. RESEARCH CHAIR AT OP: The proposal to establish a Research Chair in Antimicrobial/Anthelmintic

#### **Non-achievements / underperformance**

(1) The representative of the secondary industry on the RPEC has still not been appointed. (2) MPO producer representatives/work groups in some provinces to liaise and determine R & D needs have still not been established. This in particular is a concern in the Western Cape as effective communication with the WCDA is lacking.

#### **Reasons for non-achievements / underperformance**

(1) Mr Kraamwinkel has the responsibility to nominate a suitable candidate. (2) The MPO is still in the process of reviewing its structures

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

The non-achievements partially reflect the shortcomings in the R & D structural arrangements. It is expected that the new structure as discussed above will influence effectiveness and efficiency positively. However, details and representations still need to receive attention, which will be attended to in the third quarter.

Resistance at the Veterinary Faculty to address both the resistance issue and capacity building in helminthology is continuing.

### **Goal 3 - To accumulate and publish existing domestic and international scientific knowledge of applicable and practical value to enhance the industry**

#### ***Achievements***

A. 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. Seven articles were entered on the website; therefore the target was met. Some of these 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 group housing of dairy calves on behaviour, cognition, performance and health.*
- \* *Effect of concentrate feeding method on the performance of dairy cows in early to mid lactation.*
- \* *Effect of 2 different pre-milking teat sanitation routines on reduction of bacterial counts on teat skin of cows on commercial dairy farms.*
- \* *The effect of storage temperature and duration on the microbial quality of bulk tank milk.*
- \* *Inclusion of sainfoin (*Onobrychis viciifolia*) silage in dairy cow rations affects nutrient digestibility, nitrogen utilization, energy balance and methane emissions.*
- \* *A comparison of individual cow versus group concentrate allocation strategies on dry matter intake, milk production, tissue changes and fertility of Holstein-Friesian cows offered a grass silage diet.*
- \* *Dairy farms testing positive for *Mycobacterium avium* ssp. *paratuberculosis* have poorer hygiene practices and are less cautious when purchasing cattle than test-negative herds.*

B. 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. Six articles were sourced which met the target. The following themes were covered:

- DIRECTIVES AND GUIDELINES TO REDUCE THE CARBON FOOTPRINT.
- BEHAVIOUR OF HOLSTEINS, JERSEYS AND THEIR CROSSES ON PASTURE AT FORT HARE.
- MILK FATTY ACID CONCENTRATION AS AFFECTED BY BREED AND STAGE OF LACTATION.
- GENOMIC TESTS FOR HEAT TOLERANCE.
- EFFICACY OF BACTERIOPHAGE THERAPY AGAINST MASTITIS-CAUSING STAPH AUREUS.
- CROSS BREEDING JERSEY AND ANGUS FOR DUAL PURPOSE PRODUCTION IN SMALLHOLDER SYSTEMS.
- MOLECULAR CHARACTERIZATION OF STAPH AUREUS ASSOCIATED WITH THE COW-HUMAN INTERFACE.

***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 represents the Dairy Industry on a Committee advising the DEA on climate change and GHG reductions. He is also on an advisory group of Agri SA in this regard to formulate their approach and strategy. The DEA developed in draft format their "Strategic Plan: Measurement, Reporting and Verification for the AFOLU Sector 2016 to 2020" (AFOLU is the acronym for Agriculture, Forestry and other Land Use), which addresses targets and time lines for mitigation for the Sector, as well as measures such as taxation if the targets and time lines are not met. The author expressed his concern about the intended taxation on the Agricultural Sector where profit margins are small and accordingly prepared a Memorandum for discussion at the AgBiz Meeting of 21 July. Since this affects the Dairy Industry as much as any other industry, the Memorandum is attached as Annexure 2.

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

## **Income and expenditure statement**

Income and expenditure statement	<a href="#">MSA Expenditure of Programme Manager R &amp; D 2016 2nd Quarter.docx</a>
Unnecessary spending during period	No

## **Popular Report**

No file has been uploaded

## **Additional documentation**

[ANNEXURE 1 MINRES010 Minutes RPEC 2016 05 17.docx](#)  
[ANNEXURE 2 AGRI SA MEMORANDUM\\_GHG and TAXATION\\_July 2016.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