



Annual Report 2015

Milk South Africa NPC
1 January to 31 December 2015



VISION

To promote a healthy
South African dairy community.

MISSION

To promote the image and
consumption of South African
dairy products amongst
consumers and the broader
population, and

To develop the dairy industry
through rendering of value-
added services to industry
participants, consumers and the
broader South African population.



● Chairman's Report	2
● Chief Executive Officer's Report	4
● Board of Directors' Report	20
● Audit and Risk Committee's Report	68
● Annual Financial Statements	72
▪ General information	72
▪ Directors' responsibilities and approval	74
▪ Independent auditor's report to the directors of Milk SA	75
▪ Directors' report	77
▪ Statement of financial position	78
▪ Statement of comprehensive income	79
▪ Statement of changes in equity	80
▪ Statement of cash flows	81
▪ Accounting policies	82
▪ Notes to the annual financial statements	86
▪ Detailed Income Statement	96
▪ Operating Expenses	97
▪ Research and Development Reserve Fund	98
▪ Promoting Sustainable Commercialisation of Existing Black Dairy Producers	99
▪ Promoting Sustainable Commercialisation of Existing Black Dairy Farmers	100

Chairman's Report for 2015

Presented at the
Annual General Meeting
on 2 June 2016



Prof. Chris Blignaut | Chairman

True to the character of the dairy industry (nationally and internationally), we have experienced significant changes in the market place and the broader macro environment. What has not changed however, is the commitment of the key role-players of our industry and Milk SA to adapt to an environment that remains challenging and to respond in a manner that reflects experience in a competitive environment.

Recalling 2015, the anomaly of a devastating drought accompanied by heat waves that wrung out whatever moisture might still have been left in the soil leaving man, plant and animal devastated, and yet a total milk production that surpassed all previous years. This anomaly was staged against a backdrop of our national economy struggling to gain a productive foothold amongst political uncertainties and an insecure international scene of deteriorating human conditions the result of, for me, irrational desires. These conditions burdened the primary and secondary industries with immeasurable decisions to perform their task of supplying the consumer with dairy products that are available, safe, affordable and conducive to health, while safeguarding and growing their enterprises.

The Board of Directors of Milk SA made changes in areas pertaining to commercialisation and enterprise development. During 2015, the Enterprise Development functions were consolidated under the auspices of the Internal Management Committee: Transformation Programme. The Board approved a set of Guidelines for Skills and Knowledge Development and Mentorship projects, as well as an annual transformation business plan for the dairy industry, as required by the NAMC.

In addition to the above mentioned, the following aspects received special attention, namely -

- Financial aspects including Management statements; Debtors; and Policies and procedures. In these processes it is necessary to ensure that the levies collected are administrated according to principles of Good Governance.

- As the statutory measures empower Milk SA to utilize the levy income for projects within our mandate of market access, competitiveness and transformation, the Board had a two day in depth discussion of the content of the projects. The Board was impressed by the professional and scientific basis on which they were planned and executed.

Other points that appeared regularly on the Board's agendas were:

- Administrative responsibilities of the Office of Milk SA.
- Risk management issues such as the debt position regarding levies outstanding.
- Internal audit reports in respect of administration and projects.
- Quarterly and annual reports of the Project Managers and the CEO.

Other issues and actions that were discussed when appropriate during the year were Project proposals for 2016; Establishment of a Statutory Measures Committee comprising the CEOs of Milk SA, MPO and SAMPRO; and Reviewing the Communication Policy.

The Board was sufficiently advised by its Project Advisory Committees, the Executive Committee, Human Resources Committee and the Audit and Risk Committee.

Through its projects, Milk SA continued to make remarkable progress to unlock and build capacity for the industry through interaction with governmental and other structures. Due to the increasing importance of the international dairy market, as members of Milk SA also accentuated previously, the Customs and Market Access functions of Milk SA were repositioned as a registered project of Milk SA.

A detailed overview of the performance of Milk SA in terms of its administration and projects is contained in the Annual Reports of the CEO and the Board respectively.

It is fulfilling to witness the impetus created by this united platform, Milk SA - a vision of its members - MPO and SAMPRO - more than a decade ago.

I wish to thank everyone who made the financial year of Milk SA under taxing conditions, a memorable one:

- Levy payers;
- The Members of Milk SA (MPO and SAMPRO)
- The Board of Directors;
- The Vice-Chairman;
- Members of the Advisory Committees, Work Groups, Exco and the Audit & Risk Committee;
- Project managers;
- NAMC; and
- The CEO and staff who to me it seems tirelessly executed a heavy burden with a smile.

It is not the intention of the Board of Milk SA to see through one another, but to see one another through. I am sure it is also the frame of mind throughout Milk SA.

Thank you and God bless.



Chris Blignaut
CHAIRMAN

Chief Executive Officer's Report



Nico Fouché | CEO

for the Financial Year 2015 to the Members of Milk South Africa at their Annual General Meeting of 2 June 2016.

1. Introduction

The CEO's role includes being ultimately responsible for the day-to-day management decisions and for implementing the Company's long and short term plans.

The Office of Milk SA remained efficient and focused on its main duty, namely the administration of the statutory measures and general administration of the Company's business.

Milk SA continued to provide an excellent platform for its members, the MPO and SAMPRO, as well as other stakeholders to collaborate on issues that drive the South African dairy industry.

I can confidently report that the Company's two members, SAMPRO and the MPO, as well as everyone else related to Milk SA's business, played a significant role in promoting the strategic direction of the Company namely to broaden the market for dairy products, to promote the competitiveness of the South African dairy industry and to empower the previously disadvantaged community.

2. Statutory Measures

In terms of the Marketing of Agricultural Products Act, 1996, (Act No. 47 of 1996) the Minister of Agriculture, Forestry and Fisheries entrusted the implementation, administration and enforcement of the following statutory measures to Milk SA, as published on 20 December 2013:

- i. **Notice 1218:** Registration of persons involved in the secondary dairy industry.

CHIEF EXECUTIVE OFFICER'S REPORT



- ii. **Notice 1219:** Records and returns in respect of milk and other dairy products.
- iii. **Notice 1220:** Levies on milk and other dairy products.

These statutory measures will lapse on 31 December 2017.

The Office and the Board of Directors of Milk SA did everything in their power and employed all statutory and other measures at their disposal - within the budgetary, resource and other constraints - to ensure optimal compliance with regard to levy payments and other statutory obligations.

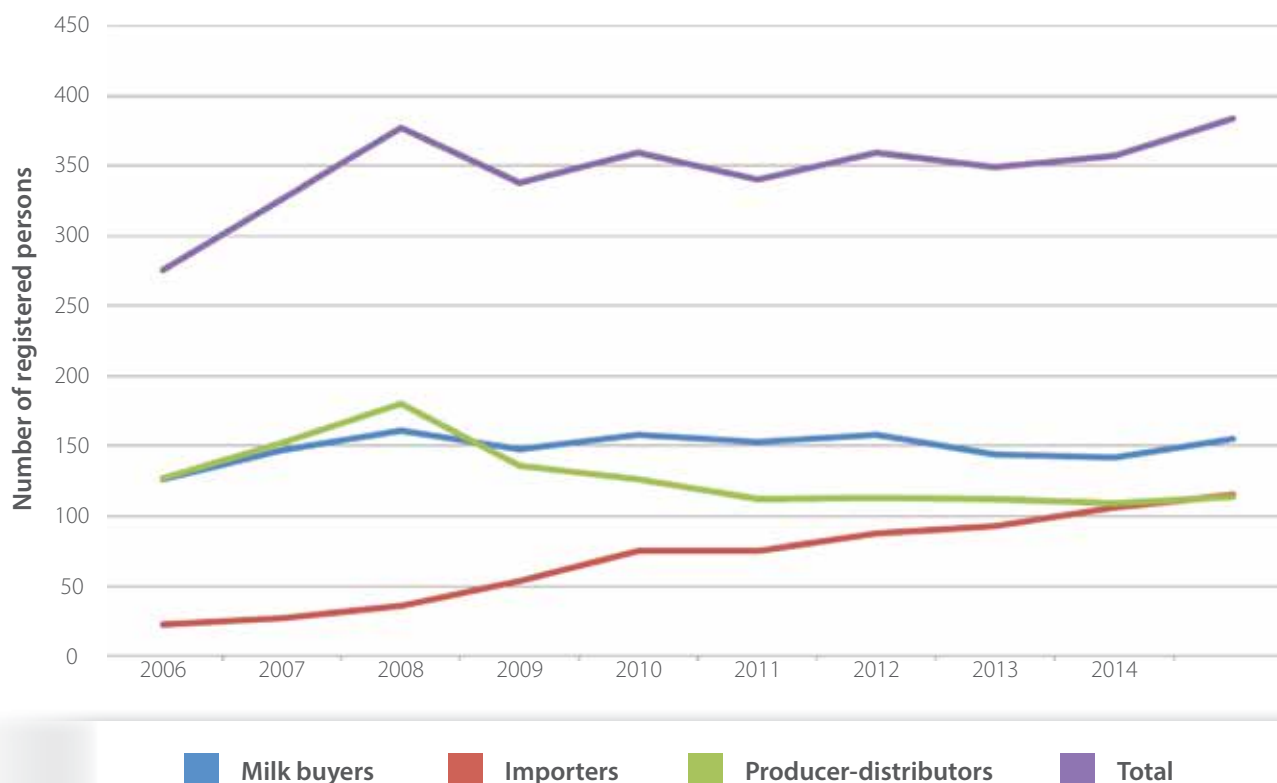
3. Annual movement in the number of registered persons in the three registration categories

In December 2015, the number of milk buyers / processors comprised 40,4% of the total number of persons / institutions that are registered with Milk SA, followed by importers of dairy products (29,9%) and producer-distributors (29,7%).

Contributions to the levies by category were as follows in 2015: Milk buyers / processors (88,4%), importers of dairy products (10,5%) and producer-distributors (1,1%).

Milk buyers / processors contributed 98,75% and producer-distributors 1,25% to the total milk declared to Milk SA.

Annual Movement in the number of registered persons in the three registration categories: 2006 to 2015



Number of registered persons: 2006 to 2015

		Buyers	Importers	Producer-Distributors	Total
December	2006	126	23	127	276
	2007	147	27	152	326
	2008	161	36	180	377
	2009	148	54	136	338
	2010	158	75	126	359
	2011	153	75	112	340
	2012	158	88	113	359
	2013	144	93	112	349
	2014	142	106	109	357
	2015	155	115	114	384

4. Levy budget and income, 2006 to 2015



5. Percentage contribution of the categories of levy payers to the income in 2008, 2010, 2012, 2014 and 2015

	2008	2010	2012	2014	2015
Milk buyers	92	91	87	91	88
Importers	6	7	12	8	11
Producer-distributors	2	2	1	1	1

Number of role-players and their share of levy payments in 2015



6. The web-based information system

The web-based system continued to contribute to successful administration in terms of:

- Capturing and processing of data relating to registrations, returns and levy payments.
- Management reports in respect of the above for the office, attorneys and accountants.
- Submission of project proposals and reports by applicants / project leaders.
- Hosting of project reports, financial and other information relating to Milk SA and its activities for access by different role-players and the public.
- Access by the levy payers, of statutory information submitted to Milk SA and of their invoices.
- A contact system of all industry and other role-players.

7. Inspections in terms of Section 21 of the Marketing of Agricultural Products Act, 1996 (Act No. 47 of 1996)

At the request of Milk SA, the Minister of Agriculture appointed two inspectors for the current period of the statutory measures, namely Mr Wicus van der Merwe and Mr Jones Ditsela.

Objectives of the Inspections

- The main objective of the inspections is to establish and report on compliance of role-players with the statutory requirements, which have significant implications for the income and accuracy of industry information.
- Secondary objectives are to advise and guide role-players regarding their statutory responsibilities as well as to fulfil a public relations role for Milk SA.

Procedures

- Inspections were based on normal audit principles in terms of testing on a sample basis and obtaining appropriate supporting documentation where applicable.

Scope of physical inspections during 2015

Eleven role-players were visited during 2015 in the following provinces:

- North-west province 1 milk processor.
- KwaZulu-Natal 8 milk processors.
- Western Cape 2 milk processors.

Communication of the inspection findings

- Problems identified during the inspections were pointed out to the Board of Directors in a summary report, and letters with detailed findings and suggested corrective measures were sent to each individual role player.
- Matters with a potential impact on statistical data and levy income of Milk South Africa were highlighted in a report to the Board of Directors.

Observations

- In general the majority of the role-players comply with the requirements of the Act, in that they keep adequate records of imports of dairy products, milk purchases as well as records to differentiate between milk used for concentrated products and milk used for other purposes.
- Role-players did not in all cases take heed of the changes in the statutory measures that came into effect on 1 January 2014.

Follow-up procedures

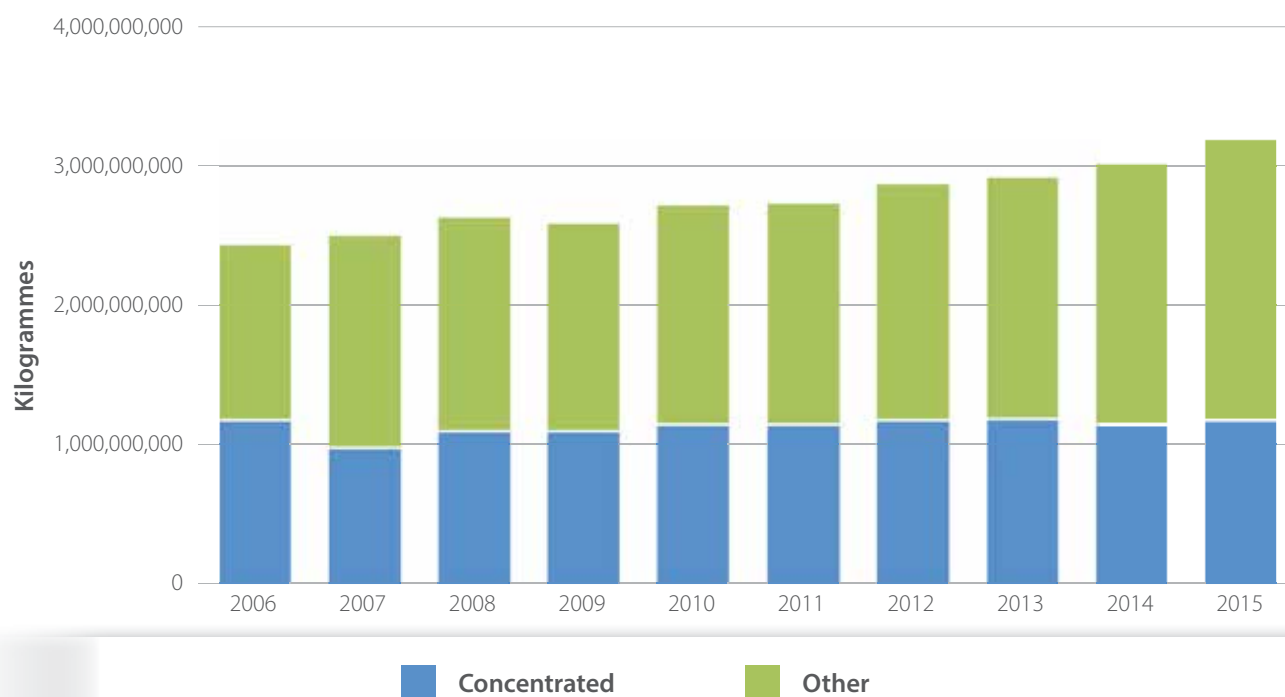
- Letters were written to each role-player under the signatures of the Inspector and the CEO of Milk South Africa, wherein detailed findings were communicated and required follow-up action explained.
- In certain cases, agreements were reached with the role-players in terms of which they would revisit their records to find the relevant data for completion of revised returns.
- A control schedule was drawn up in order for Milk SA to be able to follow up and keep track of outstanding matters with the relevant role-players.
- Where significant problems were identified, role-players were scheduled for second audits in order to ensure that appropriate corrections were implemented.
- Inspection procedures were carried out electronically in respect of eight milk processors in the Western Cape province.

Conclusion

- In general, role-players complied with the requirements of the statutory measures, as amended from the previous (2010 to 2013) regulations - by keeping adequate records of milk purchases and production as well as processing thereof.
- However, the inspector found that most of the role-players visited, did not implement all the changes required by the statutory measures that were enforced since January 2014.

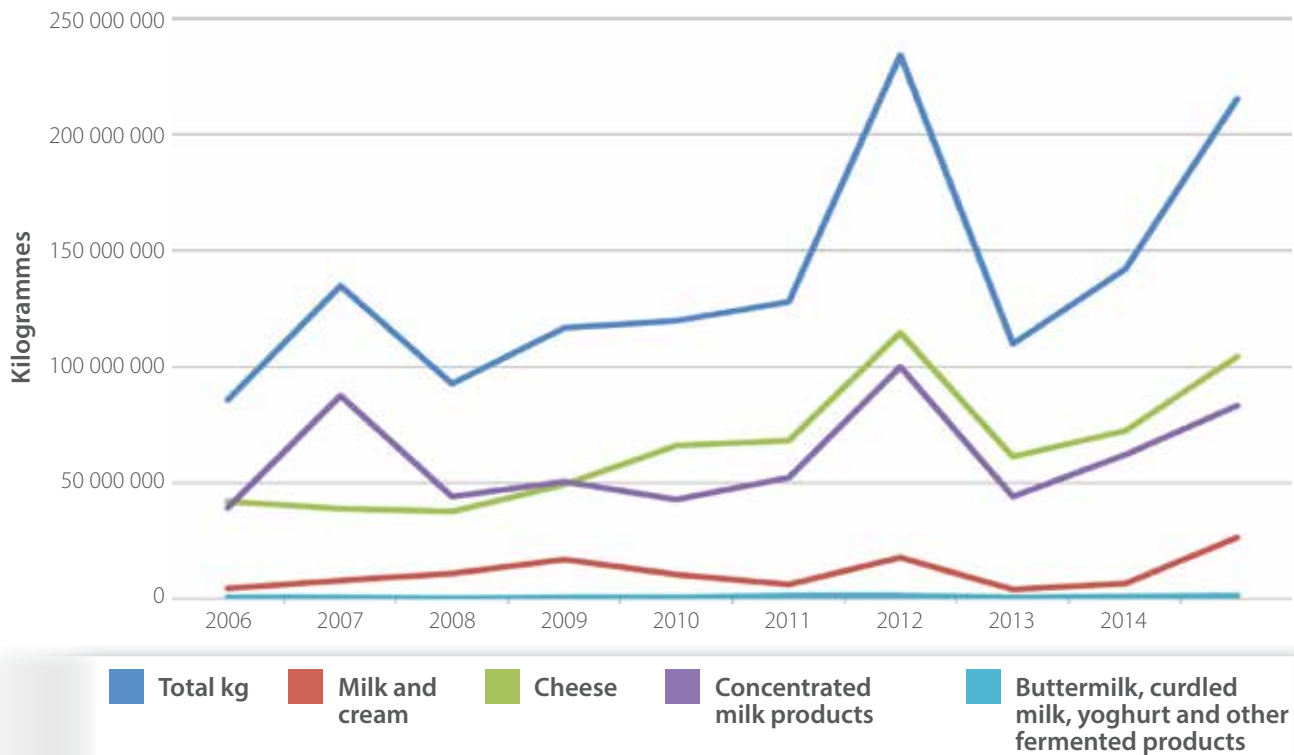
- As a result of the findings mentioned under ii above, many revised monthly returns had to be submitted, which placed an additional burden on the resources of the Office of Milk SA.
- Although monetary adjustments needed to be made - to the benefit and expense of both Milk SA and the role-players - the net effect of the adjustments was to the advantage of Milk SA.
- The guideline document on the interpretation of the new statutory measures that was drafted by the Office of Milk SA in conjunction with the Inspector, was disseminated to all role-players again.

8. Processing of unprocessed (raw) milk into concentrated and other products: 2006 to 2015



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Concentrated %	48.4	39.4	41.9	42.6	42.3	41.9	41.6	41.9	40.0	37.0
Other %	51.6	60.6	58.1	57.4	57.7	58.1	58.4	58.1	60.0	63.0

9. Imports of product categories, 2006 to 2015 as reported to Milk SA (Milk equivalent: kilograms)



10. Milk equivalent of imported products, 2006 to 2015 ('000 kg)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
85 924	135 073	92 821	116 601	119 922	127 896	234 108	109 758	142 143	215 274

11. Imports per category in 2015 (Kilogrammes: not milk equivalent)

	Kilogrammes reported to Milk SA in 2015
0401 Milk & Cream, not concentrated ...	26 498 694
0402 Milk & Cream, concentrated ...	9 233 304
0403 Buttermilk, curdled milk, yoghurt ...	1 295 961
0404 Whey	7 773 551
0405 Butter	7 782 117
0406 Cheese	10 437 979

12. Administration of the projects of Milk South Africa

The content of the projects of Milk South Africa are subject to the requirements of the objectives of the statutory measures and the strategic direction as decided by the Members of Milk SA, and they are also aligned with the relevant government legislation and initiatives of government institutions and other external institutions.

The strategic direction of Milk SA was defined to promote the broadening of the market for milk and other dairy products, to improve the competitiveness of the South African dairy industry and to promote transformation in the South African dairy industry.

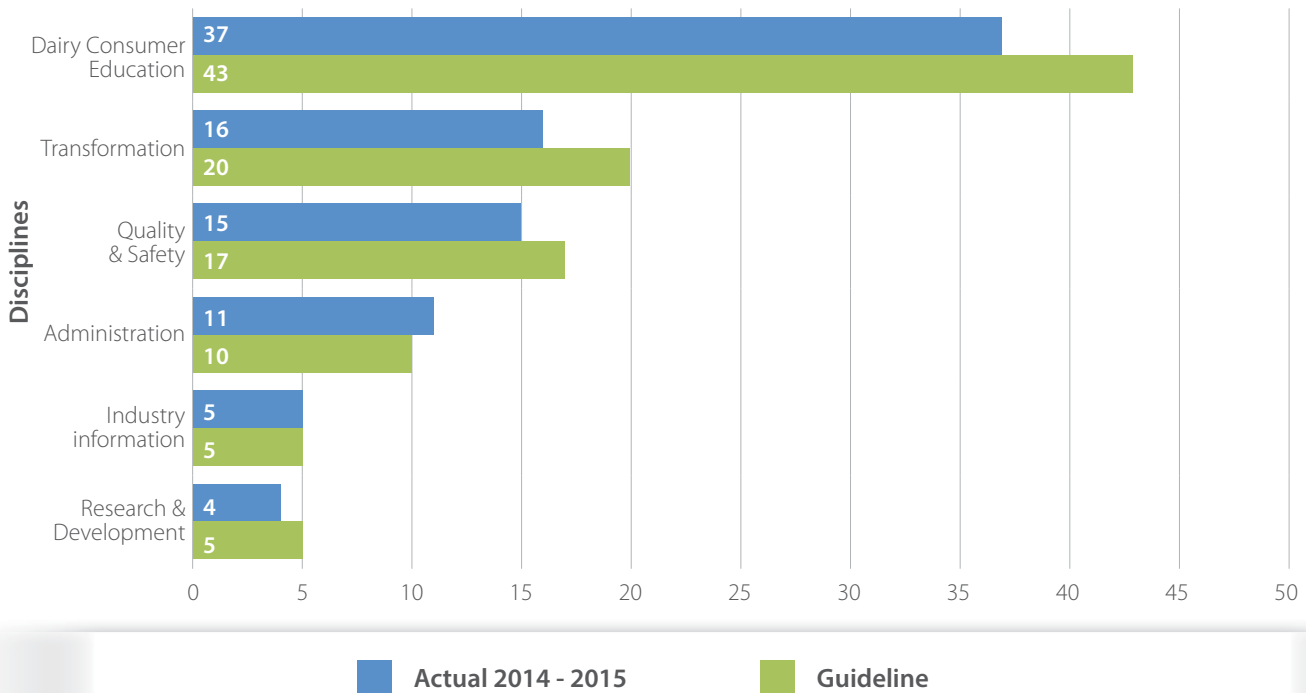
Milk SA signed contracts with the project managers in accordance with Milk SA's policy on the funding of statutory projects. Quarterly and annual reports for each project were submitted by the project managers.

The relevant structures including the Work Groups, Advisory Committees, Audit & Risk Committee, Executive Committee and Board of Directors fulfilled their roles to ensure that the projects were well structured and monitored and that their goals are optimally achieved.

The Board continued to employ an internal auditor to provide independent and objective advice in order to improve Milk South Africa's performance in respect of its administrative and project outputs. During 2015, internal audit reports were issued to the Board of Directors on the following:

- Procurement by the Office of Milk SA.
- Follow-up on the previous audit findings regarding Administration of the Statutory Measures.
- Dairy Quality and Safety projects, as performed by the Dairy Standard Agency.

Actual expenditure of the statutory levies on the six disciplines vs the guideline percentages, during 2014 to 2015

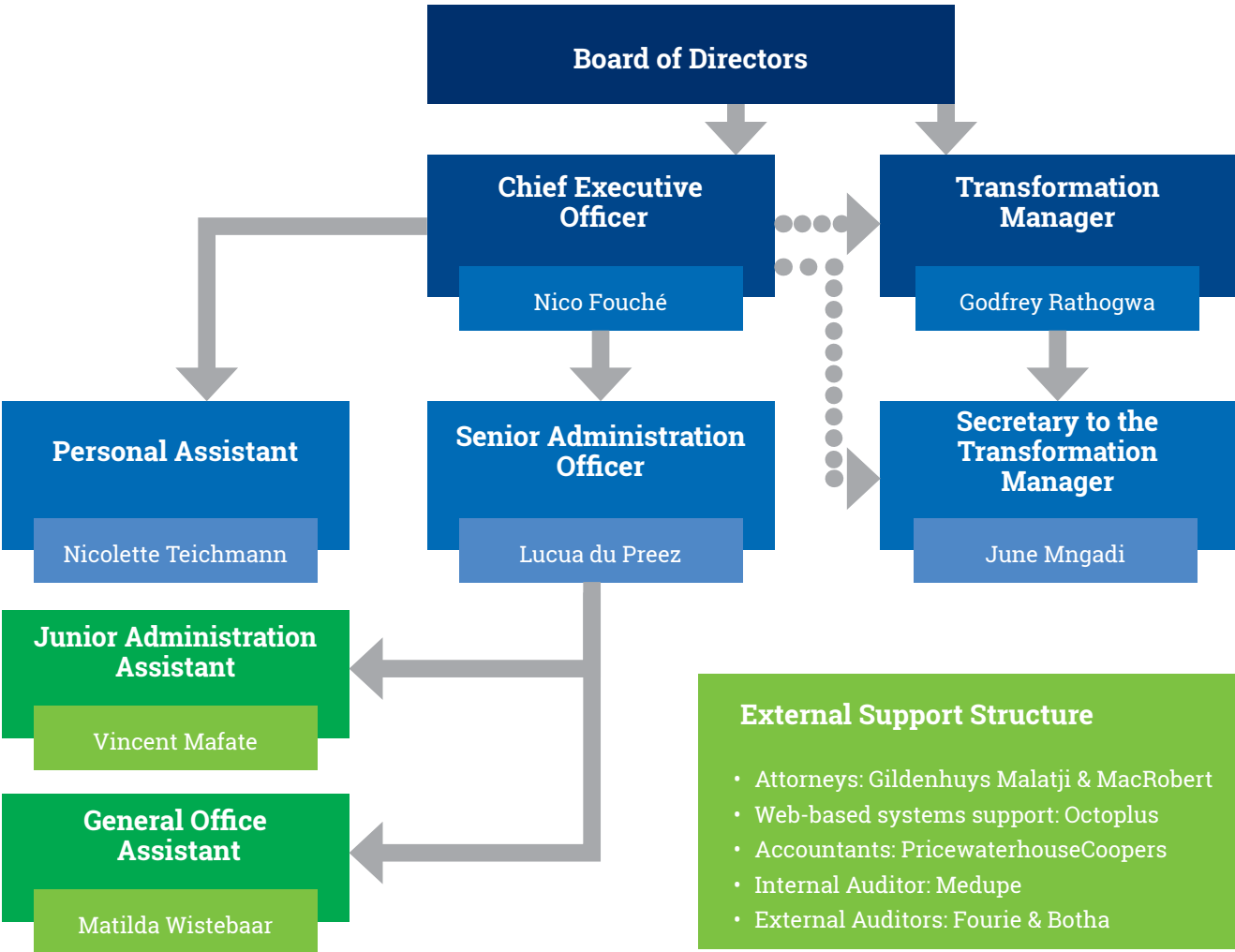


- i. The aim is that each discipline should meet the guidelines within the four-year period of 2014 to 2017. A management tool to this effect is monitored by the CEO and the Board.
- ii. Variations of especially milk purchases, as declared to Milk SA, influence the achieved percentages. The extraordinarily high milk volumes in the 2015 financial year had a significant effect on the levy income and percentage expenditure per discipline.
- iii. The Board policy to use the levies on an inflationary basis during the four years, should also be taken into account.
- iv. Up to 31 December 2015, 88% of the levy income for the two years (2014 and 2015) had been utilized.
- v. The guideline percentages are not equal to or linked with budget amounts: Guideline percentages (for the disciplines) in monetary terms depend on the levy income, while the budgets are fixed amounts.

13. Office structure of Milk South Africa and external support structure

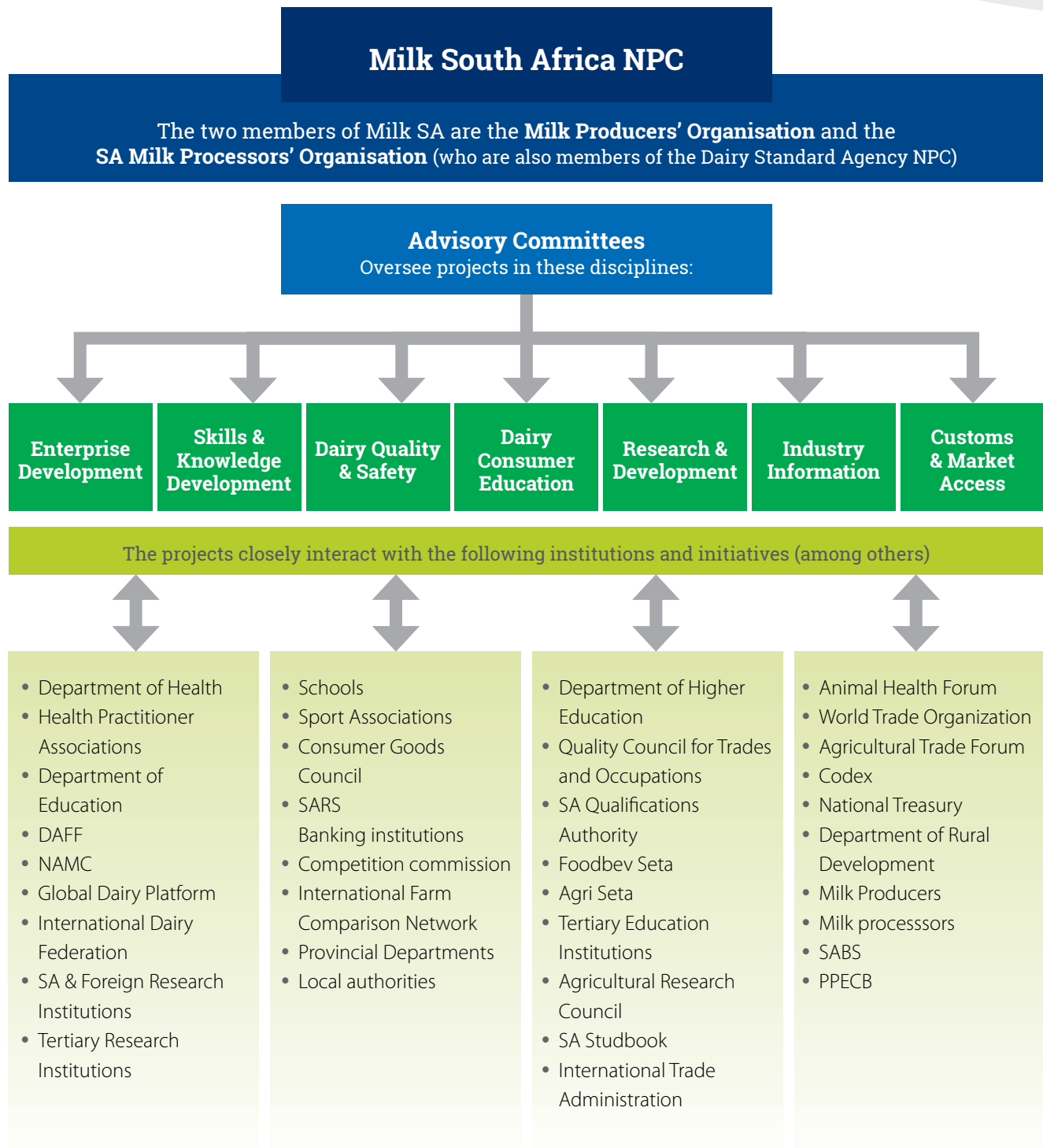


Staff of Milk SA
Back: Vincent Mafate, Lucua du Preez, Nicolette Teichmann.
Front: Matilda Wistebaar, Nico Fouché, June Mngadi.



Solid lines: Line authority | Dotted lines: Administrative authority

14. Functional structure of Milk South Africa



The above structure clearly shows that:

- The primary and secondary industry sectors (represented by the MPO and SAMPRO respectively) are united in Milk South Africa as well as in the Dairy Standard Agency, in terms of the objectives that they commonly pursue in the interests of the entire South African dairy industry and community.
- The strategic direction of Milk SA requires a multi-disciplined approach.
- The multi-disciplined approach enabled Milk SA to unlock a wealth of support and co-operation from governmental, semi-governmental and private business sources.
- In respect of the South African dairy industry, collective issues of strategic importance exist which
 - cannot be addressed through competition in the market;
 - should be addressed in the interests of the South African dairy industry, the consumer, and economic development, and
 - can, in terms of the Competition Act, be addressed by collective action by the members of the dairy industry.

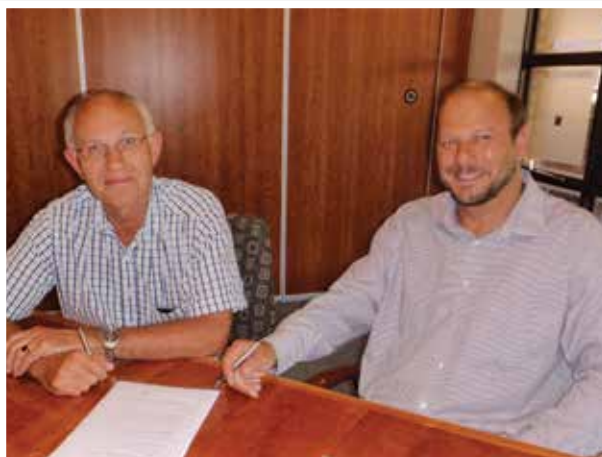


15. Contractors in 2015

i	PricewaterhouseCoopers Inc	Accountants.
ii	Octoplus (Pty) Ltd	Web-based system support and enhancement.
iii	Internet Solutions (Dimension Data)	Web-based systems hosting & security.
iv	Fourie & Botha Inc	External Accountants (i.t.o. Companies Act).
v	Gildenhuys Malatji Inc	Attorneys.
vi	MacRobert Inc	Attorneys.
vii	Medupe (Pty) Ltd	Internal Auditor.
viii	Milk Producers' Organization (NPC)	Projects: <ul style="list-style-type: none"> • Industry Information. • Empowerment of previously disadvantaged individuals in the primary dairy sector, through training and skills development. • Mentoring emerging dairy farmers (Elim). • Dairy Occupational Qualification.
ix	SA Milk Processors' Organization	Projects: <ul style="list-style-type: none"> • Dairy Consumer Education. • Skills development (training).
x	Dairy Standard Agency NPC	Project: Improvement of dairy quality & safety.
xi	University of Pretoria (Onderstepoort)	Projects: <ul style="list-style-type: none"> • <i>Fasciola hepatica</i>: Impact on dairy production and sustainable management on selected farms in South Africa. • Resistance to available antibiotics in lactating cows with mastitis.
xii	University of KwaZulu-Natal	Investigating alternative methods such as bacteriophages and bacteriocins to control mastitis organisms.
xiii	Veterinary Network (Pty) Ltd	Project: National disease monitoring and extension system for the South African dairy industry.
xiv	Dr HH Meissner (Programme Manager: Research & Development: Milk SA)	Project: Co-ordination, support and promotion of needs-driven R&D in the South African Dairy Industry.
xv	SA National Committee of the IDF	Participation in the projects and activities of the International Dairy Federation (IDF) through the SA National Committee of the IDF.

16. Communication & Liaison

- *Milk Essay* was launched in 2010 as a quarterly publication, while the website continued to be updated with project reports, minutes, industry statistics, news and other information.
- The Office of Milk SA and its Project Managers liaised with the ARC, Department of Agriculture, Provincial Departments, Department of Health, Department of Trade and Industry, NAMC and other government and non-governmental institutions on a variety of issues which are in the interests of the dairy industry as a whole. Detailed information in this regard appears in the annual and quarterly project reports.
- The communication policy of Milk SA was reviewed during the financial year, ensuring that the persons who pay the statutory levies and the other target groups have access to the relevant information that should be of value to them.
- The website of Milk SA was regularly updated with the relevant reports and other information, also in the form of “podcast” videos, covering the various disciplines of Milk SA.



Phillip Swart (MPO) and Nico Fouché (Milk SA)
discussing a contract.

17. Corporate Governance

Good Corporate Governance is central to the success of Milk South Africa. The increased administrative responsibilities and the scope and depth of the projects, urged the need for new and refined policies, procedures and systems. The corporate governance instruments are listed below.

- i. Corporate Governance & Directors' Duties
- ii. Directors' Disclosure of Interest Policy and Policy for handling of conflicts of interests
- iii. House rules for the Board of Directors
- iv. Duties of Directors (to be signed by directors)
- v. Role and Responsibilities of the Vice-Chairperson
- vi. Board meeting procedures
- vii. Charter for the Board of Directors
- viii. Charter for the Members of Milk South Africa
- ix. Chart of Authority - CEO
- x. Financial Policy of Milk South Africa
- xi. Depreciation & Maintenance of Assets Policy
- xii. Policy for the financing of statutory projects of Milk South Africa
- xiii. Policy for the monitoring of statutory projects to ensure effective use of statutory funds
- xiv. Dispute resolution procedure in respect of contractual agreements between Milk SA and Service providers i.t.o. the statutory measures
- xv. Standard Agreement between Milk SA and Contractor (for projects)
- xvi. Policy for Advisory Committees of Milk SA
- xvii. Human Resources Policy
- xviii. Human Resources Committee: Terms of Reference
- xix. Audit & Risk Committee: Terms of Reference
- xx. Terms of Reference for each Advisory Committee of Milk SA
- xxi. Executive Committee: Terms of Reference
- xxii. Policy and Procedures for the Administration of the statutory measures administrated by Milk South Africa
- xxiii. Memorandum of Incorporation of Milk South Africa NPC

CHIEF EXECUTIVE OFFICER'S REPORT





A Report of the **Board of Directors**

To the members at their
Annual General Meeting of 2 June 2016

1. Persons who served on the **Board of Directors** during 2015

• Adams, PH		Appointed 2015.01.22
• Blignaut, CS (Prof)	Chairman	
• De Jongh, AJB		Resigned 2015.03.31
• Grobler, FA		
• Kraamwinkel, AP		
• Kuyler, GF		Appointed 2015.09.30
• Lok, NJ		
• Loubser, MJ	Vice-Chairman	As from July 2015
• Prinsloo, AW		
• Rathogwa, MG		
• Turner, TK	Vice-Chairman	Until June 2015 Resigned 2015.09.15
• Van Dijk, CJ (Dr)		Appointed 2015.05.14
• Van Heerden, J		

Board of Directors

Left to right: Godfrey Rathogwa, Ndumiso Mazibuko (NAMC), Melt Loubser (Vice-Chairman), Nigel Lok, Prof Chris Blignaut (Chairman), Nicolette Teichmann (PA to CEO), Dr Chris van Dijk, Porchia Adams, Alwyn Kraamwinkel, Willie Prinsloo, Nico Fouché (CEO), Jacques van Heerden, George Kuyler.

2. **Board and General** meetings

The Board held four meetings in the year under review.

Two General meetings and one Annual General meeting were held.

BOARD OF DIRECTORS' REPORT

3. Project Committees and Work Group meetings

	Number of scheduled meetings held in 2014		Notes
	Advisory Committees (Board Committees)	Work Groups & Other	
Industry Information	2	4	*National Task Team on Export Certification
Customs & Market Access	2	3*	
Dairy Regulations & Standards	1	n/a	
Dairy Consumer Education	2	n/a	

	Number of scheduled meetings held in 2014		Notes
	Advisory Committees (Board Committees)	Work Groups & Other	
Transformation Programme: Enterprise Development	2	9	<ul style="list-style-type: none"> Internal Management Committee: Transformation (Enterprise Development): x 5 Work Group: Transformation (Enterprise Development) x 4 External Management Committee: Commercialization project x 0
Subcommittee: Skills development - Primary Industry	2	n/a	
Subcommittee: Skills development - Secondary Industry	2	n/a	
Research & Development	2	7	



Executive Committee

Left to right: Nico Fouché (CEO), Dr Chris van Dijk, Willie Prinsloo, Prof Chris Blignaut (Chairman), Godfrey Rathogwa, Alwyn Kraamwinkel.

4. Other Board Committees

	Number of meetings held in 2015
Executive Committee	2
Audit & Risk Committee	3
Human Resources Committee	3

5. Representation on other bodies

During 2015, Milk SA was represented on:

- The Agricultural Trade Forum by Dr Koos Coetzee and Mr De Wet Jonker.
- Exco of the SA National Committee of the International Dairy Federation by the CEO.
- Animal Health Forum by Mr De Wet Jonker, Mr Phillip Swart and Dr Danie Odendaal.
- The General Meetings of the Dairy Standard Agency by the CEO and Chairman, as observers.

6. Summary of expenditure during 2015

6.1 Detailed summary of expenditure on the functions funded by levies (Notice 1218 of 2013)

Function	Institution	Project title	Rand (Excl VAT)	Subtotals
Administration	Milk SA	Administration	5 334 809	5 334 809
Statistical and other information re. the dairy industry	MPO NPC	Collection, processing and dissemination of national & international information for the dairy industry of South Africa.	781 781	1 885 104
	SANCIDF (Voluntary Association)	Participation in the activities of the International Dairy Federation through SANCIDF	819 932	
	Dimension Data & Octoplus	Web-based information system: enhancement & support	233 307	
	Milk SA NPC	Liaison with Government Institutions re Market Access Issues	5 134	
	AC Nielsen & BMI	AC Nielsen & BMI reports	44 950	

BOARD OF DIRECTORS' REPORT

Function	Institution	Project title	Rand (Excl VAT)	Subtotals
Empowerment of previously disadvantaged individuals	MPO NPC	Empowerment in the primary industry sector: Training, technology transfer, skills development with mentorship of previously disadvantaged individuals in the primary livestock/dairy sector.	2 490 000	7 196 560
	MPO NPC	Empowerment in the primary industry sector: Mentoring of developing dairy farmers at Elim.	110 079	
	MPO NPC	Design and Development of the Curriculum as well as learning material development for a dairy farming occupational qualification	194 109	
	SAMPRO (Voluntary Association)	Transformation: Secondary Industry Skills Development	3 378 842	
	Milk SA NPC	Transformation: Enterprise Development	1 023 530	
Research & Development	Veterinary Network (Pty) Ltd	National disease monitoring and extension system for the South African dairy industry	180 000	2 335 359
	HH Meissner & Milk SA NPC	Research & Development Co-ordination and Facilitation	507 238	
	Animal Health Forum (Voluntary Association)	Animal Health Forum Membership Fees	25 000	
	University of KwaZulu-Natal	Investigating alternative methods such as bacteriophages and bacteriocins to control mastitis organisms	385 647	
	University of Pretoria	Resistance to available antibiotics in lactating cows with mastitis	385 962	
	University of Pretoria	Fasciola hepatica: Impact on dairy production and sustainable management on selected farms	845 100	
	Milk SA NPC	Liaison with institutions regarding flocculation project protocols	6 412	
Quality and Safety of milk and other dairy products	Dairy Standard Agency NPC	Improvement of the quality and safety of milk and other dairy products	6 700 000	6 700 000
Dairy Consumer Education	SAMPRO NPC	Dairy Consumer Education Project of Milk SA	17 283 588	17 283 588
Communication, Meetings, Internal audits, Management relating to projects	Milk SA NPC	All disciplines and projects	1 763 557	1 763 557
Total levy expenditure on above functions:				42 498 977

6.2 Expenditure on the functions funded by unused levies (“reserve funds”) in respect of previous levy periods (2006 to 2013)

Function	Institution	Project title	Rand (Excl VAT)
Enterprise development	Milk SA NPC	Promoting sustainable commercialization of existing black dairy enterprises	1 077 816



Dr Heinz Meissner
R&D Programme Manager

7. Project reports

7.1 Project title: Coordination, support and promotion of needs-driven R & D in the South African Dairy Industry

i. **Responsible institution:** Milk South Africa, under leadership of Dr Heinz Meissner (R&D Programme Manager, Milk SA)

ii. **Background and purpose of the project**

The Dairy Development Initiative (DDI) of 2000 expressed concern that dairy R&D in South Africa appeared uncoordinated and was not functional with respect to the strategic direction of the industry.

Since then, Milk SA was mandated by statutory regulations to address these issues and, in addition, to promote the practical application of local and international research by the industry.

iii. **The project goals for 2015 were:**

- To accumulate and publish existing domestic and international scientific knowledge of applicable and practical value to enhance the industry.
- To limit research fragmentation and encourage cooperation between R&D capacities towards achieving the strategic goals of the industry.
- To guide the R&D programme by means of effective structural arrangements, administration and fund sourcing.
- 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.

iv. Summary of project's performance

GOAL 1 - TO ACCUMULATE AND PUBLISH EXISTING DOMESTIC AND INTERNATIONAL SCIENTIFIC KNOWLEDGE OF APPLICABLE AND PRACTICAL VALUE TO ENHANCE THE INDUSTRY

Task 1: Updating information on the website from the seven most relevant international scientific journals, as previously identified. Fifty research titles per month will be added.

During 2015 a total of 747 entries were placed on the website, or 62 per month. The target of 50 per month was therefore met. This task will not continue in 2016 since it appears that members do not show interest in accessing this particular information. Instead it was decided to increase the number of publications interpreted by the author which could be of value/interest to members. Whereas the latter articles are placed on the website and also published in "The Dairy Mail" under the heading "THE RESEARCH COLUMN", it is maybe also important to target publications such as the "Milk Essay" and the "MPO Milk Bulletin" to ensure a wider audience.

To accommodate the increase in 2016, the author has increased the target of THE RESEARCH COLUMN to two per month instead of one per month.

Task 2: Publications and articles of a popular-scientific nature which would be of functional value to the South African dairy industry will be listed, published on the website and made available for publication in publications such as The Dairy Mail and Milk Essay.

These are published on the website under the heading "Dairy R & D in SA". During the report period a total of 20 were interpreted and put on the website. The target is one per month (12 per year) and therefore the target was met. The subjects were a variety covering amongst others the fields of rumen buffering of the cow, concerns of cow mastitis organisms having an effect on people in contact, public concerns of enhancers used to increase production, alternatives used in the concentrate mix to reduce feeding costs, udder health and mastitis-causing organisms, high-fibre concentrates as substitute for maize

in cow diets, the effect of dietary energy source on the metabolism of the cow, oregano in rumen fermentation, INTERGIS of the ARC and the importance of specific amino acids to the cow.

In addition, a number of articles (11 in total) with relevance to dairy farmers and the R & D Programme were sourced, sent through to relevant farmers, researchers and RPEC members and debated where applicable. The details are in the Quarterly Reports. Task 2 is considered valuable as it makes farmers aware of R & D results in South Africa and the researchers to be contacted. It is also valuable for the R & D Programme since it involves the researchers and opens up debate in current and future projects.

Task 3: 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 on the website and made available for publication in publications such as The Dairy Mail and Milk Essay.

The target of one article per month to be added to "The Research Column" on the website was met as 23 contributions were made during 2015. Some of these were published monthly in "The Dairy Mail" under the regular "Research Column" of the author.

A wide variety of subjects was covered, amongst others: the effect of nutrient balance in cow diets on milk heat stability; the problem of biofilm formation in sanitizing and food safety and non-conventional treatment to deal with it; the interesting effect of selection for residual feed intake on grazing behaviour, the positive effect of paired-housing on growth of pre-weaned calves, the effect of starch and monensin on metabolism and production; heat-treated colostrum to calves; financial results on pasture; dextrose solution and endometritis; the effect of stocking rate on soil nitrate in pasture, and whether the ranking of cows in terms of RFI is influenced by energy concentration of the diet. It is anticipated that this contribution will increase in 2016 as indicated above.



**Dr Heinz Meissner (centre)
with Dr Hannes de Villiers
and Dr Trevor Dugmore
(KZN Department of Agriculture, Environmental
Affairs and Rural Development)**

Task 4: The R&D capacities in SA, titles and abstracts of 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 be executed in 2015, as it was done in 2013).

An updated inventory was entered on the website. This covers the major R & D capacities in the country, their projects and publications. It is impossible to have a 100% correct inventory as some researchers simply do not respond to the request for information. The inventory nevertheless provides a valuable overview.

GOAL 2 - TO LIMIT RESEARCH FRAGMENTATION AND ENCOURAGE CO-OPERATION BETWEEN R&D CAPACITIES TOWARDS ACHIEVING THE STRATEGIC GOALS OF THE INDUSTRY

Task 1: 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.

Progress with Memoranda of Agreement (MoAs):

The MoA with the Western Cape (WCDA) driven by a Steering Committee is functioning well. However, the Milk Producer Group which is essential to debate and put needs on the table still needs to become functional. A further benefit of the WCDA is the WC Agricultural Research Forum (WCARF) where representatives of different disciplines discuss networks, R & D needs, capacities and sources of funding. Milk SA has benefitted by being a member of the WCARF.

Agreement was reached about the content of a MoA with the KZN Department of Agriculture and Rural Development which was about to be signed

The MoA document with the Eastern Cape has shown little progress in 2015; corrections were made as suggested by them some time ago, but nothing has happened since. Discussions to facilitate the anticipated MoAs with the ARC and Stud Book have been careful and diplomatic because of the sensitivity associated with milk recording and performance measurement. However, the stance has been taken that ownership of the data is with farmers and breed societies (and therefore the industry), which implies that the ARC, Stud Book, Breedplan, Dairy MC etc. are merely service providers, and this will be the approach adopted when discussions commence. In the case of the ARC, the plant breeding facility at Cedara will be part of the negotiations.

Networks and communications:

The SESCORDER initiative is a valuable vehicle for liaison, identifying possible projects and guiding/promoting co-operation between capacities serving the south-eastern seaboard dairy needs. A Meeting was held on 20 May 2015 at Outeniqua Research Institute and one at Cedara on 4 November 2015.

At the latter Meeting a strong case was advanced to co-ordinate pasture research, but with the increasing tendency to feed more concentrates on pasture, a natural linkage with TMR systems has begun to evolve, which may point to drawing TMR expertise and producers into the SESCORDER dispensation, rather than forming an independent TMR grouping.

Further communications and/or visits were with those institutions that are responsible for the R & D programmes funded, i.e. UP (liver fluke and mastitis), UKZN (Mastitis) and VNet (Disease Monitoring).

The Milk Flocculation programme has also received impetus with a visit to UFS to discuss their proposals. These have been approved by the RPEC and the Board and will commence in 2016. The cow nutrition part of the programme which will be the responsibility of Outeniqua is regularly discussed and is taking shape as results from a pilot study provide directives for hypotheses.

Upon further discussions with the Red Meat Industry and UKZN the principle of a national bio-control programme for Fasciola and nematode control was accepted. The anticipated division is that the Fasciolosis project will be funded by the Dairy Industry and the nematode project by the Red Meat Industry (RMRD SA).

A liver fluke project proposal has been submitted by UKZN. With regard to the envisaged programme on Performance and Genetic Monitoring of the National Herd, valuable discussions were held with the MPO, CEO, SA Stud Book and the WCDA.

Some recent initiatives with relevance to the Performance and Genetic Monitoring Programme (since called the Integrated Genetic and Performance Programme [IGPP]) are the following: The IGPP is gaining

momentum with discussions with ARC, Stud Book and the Western Cape, on the practicality of using Residual Feed Intake (RFI) as efficiency selection parameter. This can be implemented on-station and also on-farm, but farms will differ in application method.

The possibility of a genomics programme for dairy cattle has also been exploited. The Technology Innovation Agency (TIA) approached Prof van Marle-Koster of UP for a protocol which was subsequently developed together with the author, and which is envisaged to be approved in April 2016 (if the funds are available). As a third initiative, the possibility of accessing performance data from automated systems to analyse for genetic and other parameter progress was discussed by the CEO and the author with Dairy MC, ARC and Stud Book representatives on 16 October 2015. The initiative proved promising.

With our liver fluke and associated parasite programme, it is of particular concern that Helminthology capacity at the UP Onderstepoort Faculty is declining. To share our concern, Dr Chris van Dijk and the author visited the Dean (Prof Darrell Abernethy) on 4 December. It should be mentioned that this concern was also shared with the Red Meat Industry which will welcome any initiative in this regard. The possibility of establishing a Chair with financial support by industries, DAFF and pharmaceutical companies was discussed. The Chair can link all R & D in the country in these and related disciplines, apart from having its own programme. This will be taken forward during 2016.



Discussing closer cooperation with the Faculty of Veterinary Science at UP Onderstepoort.

Left to right: Dr Heinz Meissner, Nico Fouché, Prof Vinny Naidoo (Deputy-Dean: Research and Post-Graduate Studies), Prof Darrell Abernethy (Dean).

Task 2: Co-operative Research Networks (CRN's) and the development thereof will be encouraged 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. In this regard, SESCORDER and interaction with National and Provincial Government structures will continue.

The CRN's with respect to the R & D programmes are satisfactory: Negotiations were successful to strengthen co-operation further:

- In the liver fluke programme with project leader Dr van Wyk of OP, further support has been obtained from NW University (Prof de Kock) to involve snail classification expertise, from Prof Charlier of Ghent for advice and possible student participation at a later stage; and from CapeCross Vets in the Eastern Cape to assist with liver analyses. Furthermore, with an initiative of Prof Laing of UKZN on biological control of the snail host, it is envisaged to link the OP and UKZN projects on fluke and snail sampling to cut costs. The UKZN project will involve the University of Zululand with post-graduate students and link up with Plant Health Products (PHP) to commercialize a possible viable biocontrol product.
- In the mastitis programme with project leader Dr van der Leek of OP, linkage with Wageningen (Prof Hogeveen) has been achieved with a three-month training support at OP (MS student Leenaerts), Epidemiology at Utrecht (Dr Nielen), CapeCross Vets that are part of the country-wide veterinarian support to obtain and analyse milk samples for mastitis organisms and strains and with UP, main campus (Prof Erasmus) to train a Masters student. Also, two of the Cape Cross veterinarians will follow a Masters Programme with Dr van der Leek. Further linkages were established with an epidemiologist (Dr Grewar) at WCDA, Stud Book logix system (Dr van der Westhuizen) for supporting data and a meteorologist (Mr Mkhwanazi) of SA Weather Service to link observations with weather data.

As far as the progress on the projects that were evaluated by the RPEC since September 2015 is concerned, the status is as follows: Two projects on milk flocculation were approved and will commence early 2016: one on heat associated enzymatic changes (Project leader: Dr Myburgh, UFS) and one on Psychrotrophic damage (Project leader: Prof Hugo, UFS).

Regarding the possible cow nutrition influence on flocculation, a pilot study was done at Outeniqua with Prof Meeske as Project leader. The author will discuss the results in January/February 2016 whereafter the protocol will be taken further. A Bio-control project on liver fluke, that will link with the project of Dr van Wyk at Onderstepoort, will also commence early in 2016. This will be done under the leadership of Prof Laing of UKZN, with post-doc Dr Ahmed as Project leader.

If the application for the envisaged genomics project is successful, expertise input will come from all major centres in the country, including UP, UFS, US, Fort Hare, ARC, Stud Book, Breedplan and several international groups.

In terms of the transformation objectives two projects at Dohne, Eastern Cape have been initiated through SESCORDER: Once-a-day milking, as alternative model for developing farmers, and a benchmark project for milk production for developing farmers. The latter is run by a Masters student of Fort Hare.

Task 3: 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 2015.

The R & D Forum was cancelled because of cost and will also not be revived in future, since the structures, R & D fields and priority projects until at least 2020 have been put in place. However, the Outlook and Research Fields and Subjects documents until 2020 are dynamic and can change as new priorities arise or current projects are completed.

GOAL 3: TO GUIDE THE R&D PROGRAMME BY MEANS OF EFFECTIVE STRUCTURAL ARRANGEMENTS, ADMINISTRATION AND FUND SOURCING



Research Project Evaluation Committee

Left to right: Dr Heinz Meissner, Nigel Lok, Prof Piet Jooste, Dr Chris van Dijk, Prof Theuns Erasmus, Nico Fouché, Alwyn Kraamwinkel.

SESCORD members
visiting Rene Stubbs' farm near Karkloof, KZN.



Task 1: Chair the Research Project Evaluation Committee of Milk SA (RPEC).

Four Meetings of the RPEC were held during 2015, on 4 March, 19 May, 9 October (a non-scheduled Meeting) and on 3 November. The primary discussions of the March Meeting were on the finalization and contracts of the projects concerned with liver fluke and mastitis, evaluation of interim reports of the National Disease Monitoring and Extension System and The Microbiological Quality of Milk, and concept proposals on milk flocculation.

In addition, memoranda were also put on the table by the author concerning: "Managerial and genetic analyses in the SA dairy herd", "Rural development, including environmental challenges and responsibilities" and "Biological control of persistent diseases of livestock".

At the May Meeting, time was primarily spent on the R & D projects in the system. All the to-be-funded projects at the time received the green light from the RPEC, contracts were signed, good progress is being made and progress reports at the time were evaluated. Assistance was provided to Project Leaders who did not complete their progress reports according to specifications. R & D Projects (titles) which were on the system at the time are:

- *Fasciola hepatica*: Impact on dairy production and sustainable management on selected farms in South Africa;
- Resistance to available antibiotics in lactating cows with mastitis;
- Investigating alternative methods such as bacteriophages and bacteriocins to control mastitis organisms;
- A National Disease Monitoring and Extension System for the Dairy Industry; and
- Characterization of coliform bacteria and *Escherichia coli* from fresh milk to determine the prevalence of possible pathogenic types.

Tea break during a meeting of the
Research and Development Advisory Committee



The special Meeting of 9 October commenced dealing with the 2016 proposed budget and the associated project proposals. In addition, a specific task was to evaluate the R & D outlook to 2020 by the author and the associated research fields and subjects.

The RPEC Meeting of 3 November coincided with the SESCORDER Meeting. A primary function was to further evaluate the budgets of the 2016 projects mentioned above for recommendation to the Board. Recommendations were also made with regard to changes to the Goals and Procedures. These projects will commence early in 2016.

Task 2: The administration of R&D requires guidance on structural arrangements, evaluation of project proposals and reports, negotiations on IP, contracts and publication of results.

Structural arrangements on the projects that are running and those that will commence in 2016 have been accommodated and the contracts signed. There were no difficult issues regarding IP to negotiate. With the mastitis project on bacteriophage predation of the pathogens by the UKZN, Plant Health Products (PHP) is a co-worker and it was initially thought that PHP could be a co-funder with IP implications. PHP was visited by the CEO and the Programme Manager, and this proved not to be the case.

The final report of Project leader Prof Buys [Characterization of coliform bacteria and *Escherichia coli* in fresh milk to determine the prevalence of possible pathogenic types] was discussed with her and her final report plus anticipated articles were submitted in the last quarter.

The Genomics Project submitted to the TIA, was developed together with Prof van Marle-Koster of the UP in terms of both technical and managerial content. A Technical Committee accommodating all available expertise will be formed. The Programme Manager R & D will facilitate.

The Management Committee accommodating the Project Leader and stakeholders in the Dairy Industry will be chaired by the Programme Manager R & D.

Task 3: Invitations for and administration of project proposals will be facilitated and administrated by the office of Milk SA; proposals will be evaluated and recommended by the RPEC to the Milk SA Board of Directors for consideration and possible financial support.

Most of these issues have been dealt with in previous sections. In addition, the Programme Manager assisted Prof Laing of UKZN to apply for NRF funding for their envisaged project: "Integrated control of *Fasciolosis* of Livestock", as well as their application to the RMRD SA for the project on bio-control of nematodes.

Task 4: R&D institutions will be guided through the required processes and contracts concluded with successful applicants.

This is continuously attended to. Until now, Milk SA funds have been sufficient to meet project budgets. This is not expected to change in 2016, therefore outside sources may have to be accessed at a later stage. If the application of the Genomics project is successful, it is expected that it will be funded by the TIA with only indirect funding from the dairy Industry (making animals available) and in kind.

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

The final Report has been completed. The author was requested to review a scientific paper resulting from the work for "Water SA". This was done during October. Comment: The Report which is available from the Water Research Commission contains some valuable information; however the study had particular shortcomings which were indicated by the evaluation committee. The resulting paper for Water SA was rejected.



Dr Jan van Wyk
Project Manager

7.2 Project title: Impact of *Fasciola hepatica* on dairy production and sustainable management on selected farms in South Africa

- i. **Responsible institution:** University of Pretoria, Faculty of Veterinary Sciences
- ii. **Objective of the project:** The project aims at preliminary investigation, on a small number of dairy farms selected on farmer perception of levels of liver fluke infection, into the potential of the liver fluke parasite (*Fasciola* sp.) to cause losses in production of dairy cows, in order to develop effective, sustainable methods of control of the worms.

iii. Summary of project achievements:

Locality

Monthly visits (from April, 2015) were paid by Van Wyk and Van Rensburg to four farms in the Tsitsikamma region, of which three were judged by local farmers to be seriously affected by *Fasciola*, and the fourth with practically no problem with the parasite.

Background to investigation

The eggs of *Fasciola* worms, harboured in the livers of cattle, are passed in the faeces of the host. For completion of its life cycle *Fasciola* sp. is completely dependent on access of the eggs to specific mud snail intermediate hosts, found in marshy patches on pasture. Problematical, is that very few of the drugs effective against *Fasciola* sp., may be used in cows producing milk destined for human consumption, as the drugs are excreted in the milk. More serious still, is that complete dependence on drugs leads to drug resistance; hence it is essential to find alternative methods of control.

Collection of host snails
(*Linea truncatula*)



Project execution

- Monthly on-farm evaluation of worm transmission by Van Wyk and Van Rensburg, through sifting of mud from six mud spots per farm for recovery of target snails;
- Blood serum collected for analysis for enzymes resulting from damage by migrating *Fasciola* to liver cells; and
- Counting of worm eggs in faecal samples from trial cattle.

Intermediate snail hosts

Large numbers of the target snails were recovered monthly from the three farms selected on farmer perception as having an problems with the parasite, and almost none from the fourth farm, even though it borders on one of the heavily infected farms.

Preliminary analysis indicates seasonal cycling of the numbers of snails, but the data is to be analysed in detail only towards the end of phase I of the project.

Worm eggs in the faeces

A total of approximately 3 000 worm egg counts (of which half for roundworms and the rest for flukeworms) were done on faecal samples from 160 heifers and lactating cows.

The counts were generally low, apparently from intensive treatment programmes of farmers for worm control in the non-trial animals. However, further analysis of the data is to be done later, as stated above.

Novel approaches being formulated for the future

Novel approaches to *Fasciola* management are being developed, for instance:

- Use of temporary, electrified fencing for separating the animals from snail-infested mud spots on pasture;
- Rapid evaluation of farms for the potential for sustaining *Fasciola* development; and
- Training of farm workers in snail recovery as an early warning system for rising likelihood of exposure to high levels of *Fasciola* sp.



Dr Martin van der Leek
Project Manager

7.3 Project title: Resistance to available antibiotics in lactating cows with mastitis

- i. **Responsible institution:** University of Pretoria, Faculty of Veterinary Sciences
- ii. **Objective of the project:** Guided by a need to elucidate the extent of antimicrobial resistance in mastitis causing organisms in South Africa, the project proposal was comprehensive in also attempting to understand the context in which such resistance occurs. A related topic would be the investigation of high somatic cell counts (SCCs) as occurs in parts of South Africa for parts of the year. Ancillary topics include the investigation of bacteriophages as an alternative to antimicrobial treatment and the investigation of innate resistance.

iii. **Summary of project achievements:**

The project was able to move forward despite some challenges, including the bureaucracy surrounding the conclusion of a contract between Milk SA and the University of Pretoria and challenges experienced by the Milk Laboratory at Onderstepoort. In spite of being delayed by a quarter, the project which has several components, was able to accomplish the following in 2015 as:

Passive testing of mastitic milk samples submitted to the Milk Laboratory at Onderstepoort

The laboratory focusses on somatic cell count (SCC) herd testing and is generating substantial antibiogram data from organisms isolated from high SCC, normal appearing milk. This component expands testing to abnormal milk samples usually discarded as they cannot be tested for SCC. To date 142 antibiograms have been completed for 138 samples from 16 farms. Unique to this project is the testing of multiple samples from the same farm, both in time and/or the same cow. This component is ongoing.

Seasonal variation in SCC

No data that describes the seasonal variation of SCC in dairy herds by region and by dairy type in South Africa exists. It has value in suggesting patterns of the bacteria that challenge the udder. Ten-year databases have been provided by both Logix/Stamboek and Weather SA and the data is being compiled for analysis. This component qualifies as the research portion for an MSc (Veterinary Epidemiology) student.

Mastitis survey

This component has as its purpose to describe the factors that affect mastitis in a dairy herd, be they management, treatment and/or prevention. This survey addresses both epidemiology and economics. The survey has been completed and is awaiting approval by the RPEC of Milk SA. It will be deployed in 2016. It is a collaborative effort between Wageningen University (Dr Henk Hogeveen)



National Milk Producers R&D Work Group of Milk SA

and the University of Pretoria (Dr Martin van der Leek). It supports two graduate students, one for an MSc (Agric) (Pretoria) degree, the other for a MS (Business Economics) (Wageningen) degree.

Active testing of mastitic milk samples

Although anticipated, this component has been delayed and supplanted instead by the collection of antibiogram data from laboratories that test milk samples in South Africa. Agreements have been reached with four laboratories that will share their data. It will commence in earnest once a graduate student is identified and appointed.

Given the fact that the components requiring significant financial resources were delayed, the project has a surplus of R 328 774 at the close of 2015, after undergoing expenses of R 57 188.

The goals for 2016 are to:

- Continue passive testing and expand the antibiogram database at Onderstepoort milk laboratory.
- Complete SCC data analysis and submit a paper to a peer-reviewed journal.
- Submit a mastitis survey to the MPO membership, complete farm visits to verify the data and start data analysis.
- Collate antibiogram data from laboratories in South Africa with the hope of establishing a national database.

This project should:

- Elucidate the 'state of the art' of mastitis treatment and control and
- Qualify and quantify the extent of antimicrobial resistance for the antibiotics used in lactating cows.

The knowledge generated should assist in improving the success of mastitis treatment, decrease the development of antimicrobial resistance and improve the safety, quality and value of milk produced in South Africa, positively impacting all sectors producing milk as a food.



Dr Iona Basdew
Project Manager

7.4 Project title: Investigating alternative methods such as bacteriophages and bacteriocins to control mastitis organisms

- i. **Responsible institution:** University of KwaZulu-Natal
- ii. **Objective of the project:** Due to the emergence of antibiotic resistance among the major mastitis-causing microorganisms in South Africa (and worldwide), alternative methods such as bacteriocins and phages should be investigated to eliminate / control mastitis microorganisms.

iii. Summary of project achievements:

GOAL 1 - OBTAIN *STAPHYLOCOCCUS AUREUS* STRAINS OF INTEREST REPRESENTATIVE OF THE INTERIOR OF THE COUNTRY FROM DR MARTIN VAN DER LEEK.

Since the inception of the project, the UKZN team has been busy collating and categorizing *Staphylococcus aureus*, *Streptococcus agalactiae*, *Strep. dysgalactiae* and *Strep. uberis* strains, *Escherichia coli* and *coagulase-negative staphylococci*. These bacterial strains are both for use during UKZN research as well for culture exchange with Dr van der Leek.

To date, a Letter of Agreement between the Faculty of Veterinary Science, University of Pretoria, and the Discipline of Plant Pathology, University of KwaZulu-Natal has been drafted and signed by Dr Martin van der Leek and Dr Iona Basdew. The contents of the letter are to facilitate research activities between both parties, so that both parties benefit from any data generated and papers published as a result thereof.

GOAL 2 - ISOLATE BACTERIAL STRAINS OF INTEREST FROM CLINICALLY INFECTED DAIRY COWS FROM THE KWAZULU-NATAL REGION AND PROVIDE DR VAN DER LEEK WITH THESE.

More than 50 different strains of microbes have been isolated and stored for both further research at UKZN scheduled to start in June-2016, as well as for culture exchange with Dr van der Leek. Specific species include *Staphylococcus aureus*, *Streptococcus uberis*, *Strep. galactiae*, *Strep. dysgalactiae*, *coagulase-negative staphylococci* and *Escherichia coli*.

Samples of each strain will be couriered to Dr van der Leek when he indicates that he is ready to process same. Furthermore, strains will continue to be collected and stored on a regular basis in order to expand the microbe and applicable phage library for mastitis infections.

GOAL 3 - ISOLATE AND CLASSIFY PHAGES ACTIVE AGAINST THE *S. AUREUS* STRAINS FROM (1) AND (2). THE SAME MILK SAMPLES USED FOR ISOLATION OF BACTERIAL STRAINS WILL BE USED FOR ISOLATION OF PHAGES.

Phages have been successfully isolated for all of the *Staphylococcus aureus* strains that were isolated from raw milk. To date, we have a phage bank of 130 strains. These phages have

been screened for their lytic activity and host-range using spot-plating. However, further classification in terms of phage nomenclature, multiplicity of infection, and titer has not been determined. For the current study, we are looking at those phages where these factors have already been confirmed and we are using those phages in the *in vivo* trials.

GOAL 4 - ISOLATE BACTERIOCINS FROM STAPHYLOCOCCAL AND STREPTOCOCCAL STRAINS, AND COAGULASE-NEGATIVE STAPHYLOCOCCUS SPP. FROM RAW MILK. FURTHERMORE, ISOLATE BACTERIOCINS FROM BACILLUS SPP.

Bacteriocin isolation has been scheduled to take place in the middle of 2016. Protocol development is complete. However, bacteriocins will only be extracted from staphylococcal and streptococcal species as these microbes are directly within the scope of the project that has been funded. Extraction from the other microbes (CNS, *Bacillus* spp., *E. coli*) will be adjunct to these, and will be undertaken at a later stage (envisaged for November 2016).

GOAL 5 - RUN *IN VITRO* SCREENING OF THE PHAGES AND BACTERIOCINS TO INVESTIGATE THEIR EFFICACY AND REQUIRED LETHAL DOSES AGAINST *S. AUREUS*, BEFORE PROCEEDING WITH *IN VIVO* TRIALS IN YEARS 2 AND 3.

In vitro screening has been completed for phages. However, bacteriocin screening is only envisaged to take place in July 2016 during the *in vivo* trial off-season. It is envisaged that bacteriocins will be incorporated into *in vivo* trials in the latter part of Year 2016 - September to December. The second *in vivo* trial is currently underway. The treatment phase of the trial was initiated on 3 February 2016 and is due to end on 12 February 2015. Thereafter, milk samples will continue to be drawn from test animals for a further 2 weeks. During this time, milk samples will be screened for microbial activity, diversity and concentration, phage occurrence and concentration, and pH. Results of Trial 1, which served as a proof-of-concept trial, are attached in "Additional Documentation".

GOAL 6 - OPTIMISE PROTOCOLS FOR LARGE-SCALE PRODUCTION OF PHAGES AND BACTERIOCINS, *IN VITRO*, FOR USE *IN VIVO* IN YEARS 2 AND 3.

Optimisation of phage production protocols to satisfy the requirements for *in vivo* trials for up to 30 experimental cows has been successfully carried out. Bacteriocin upscaling is only envisaged to take place from July 2016, in preparation for bacteriocin inclusion into *in vivo* trials starting in September 2016.

GOAL 7 - IN ADDITION TO *S. AUREUS*, ISOLATE STRAINS OF *STREPTOCOCCUS AGALACTIAE*, *STREPTOCOCCUS DYSGALACTIAE*, *STREPTOCOCCUS UBERIS*, AND *ESCHERICHIA COLI* FROM BOTH THE KWAZULU-NATAL REGION AS WELL FROM THE INTERIOR (DR VAN DER LEEK) AND ISOLATE PHAGES AND TEST BACTERIOCINS AGAINST THESE PATHOGENS.

Strains of *Streptococcus agalactiae*, *Streptococcus dysgalactiae*, *Streptococcus uberis*, and *Escherichia coli* from the KwaZulu-Natal region have been undergoing with a total of 50 different strains in storage. Strains from the interior (Dr van der Leek) will be obtained between February-March 2016. The isolation and testing of phages and bacteriocins against these microbes will take place in the latter part of 2016. This will be carried out only once the primary *in vivo* trials testing phage and bacteriocin activity against staphylococcus-induced mastitis has been completed.

GOAL 8 - EXPLORE ALTERNATIVE DIAGNOSTIC METHODS FOR THE DETECTION OF MASTITIS IN RAW MILK, I.E., METHODS THAT DIFFER FROM SCC ALONE.

The student that has been working on this project has performed satisfactorily. Key achievements include:

- Optimisation of the suitable ratio of milk sample to ethanol to 1:25 (60µL of milk sample to 1500µL of ethanol), absolute ethanol is required to separate milk fats from the proteins by cold, precipitating proteins at - 20°C that would otherwise interfere with milk fat UV absorbance.
- Investigating the optimum incubation time required for protein precipitation by absolute ethanol. The aim

was to evaluate whether or not longer incubation time would precipitate more proteins - thus far less interference than when these milk fats are measured in UV region. We found that 1 hour was the ideal incubation time required for protein cold precipitation.

- Since the UV absorbance optima of total fats/lipids is between 202-215nm in the UV region, however, the optimum UV absorbance shifts with change in concentration of fat/lipids, such that solutions with higher fat content will have an UV optima at a higher wavelength than solutions with lower fat content. This problem however can be solved by evaluating all the possible wavelengths in the UV region of 202-215 and determining the suitable wavelength, by choosing a wavelength that has better correlation (upon linear fit on the standard curve) between points representative of solutions used.

Forcato et al., 2005 found best correlation at a wavelength of 208nm, so we investigated and found that 205nm is best suitable, discrepancies may primarily be due to different re-agent grades, milk samples used or instruments for measuring the absorbance.

Therefore we have successfully produced a milk fat standard curve using prepared standard milk samples of milk fat content between 10-150 mg/mL, ratio between absolute ethanol and milk sample, 1:25, and 1 hour incubation time required for cold protein precipitation and absorbance was measured at 205 nm in a UV instrument.

The standard curve had a correlation of 0.991 between points. Using this standard curve we have estimated the milk fat concentration of milk test samples from the following dairies; Hulley-Oldfield (10 samples), Schiever (5 samples) and A/5/04-0003 Black (10 samples).



Dr Danie Odendaal
Project Manager

7.5 Project title: National disease monitoring and extension system for the South African dairy industry

- Responsible institution:** Veterinary Network (Pty) Ltd
- Objective of the project:** To establish a real time, direct, two way electronic communication channel between farmers and their herd veterinarians. This electronic system needs to overcome the fact that time is the limiting factor for both farmers and veterinarians. The system must reduce the amount of time needed to a minimum, while giving a comprehensive picture of the disease status from farm to district to national level.
- Summary of project achievements:**
The development of the electronic communication system, through which veterinarians can report diseases that occurred on a monthly basis, was effectively implemented and maintained.

A total of 112 veterinary practices and veterinary laboratories participated on a regular basis in the monthly disease reporting.

The most important achievement this year was the completion of the cell phone application through which veterinarians and farmers are able to quickly record and report disease cases as they occur.

The two most notable reports developed this year from data reported by veterinary practices are a “Disease Overview” over a 12 month period for each district (veterinary practice area) and a “National Disease Overview” over a period of 12 months for an individual disease.

The system can effectively be used to create awareness, generate reminders to stimulate the use of preventative vaccination and to generate early disease warnings when the first seasonal case is reported within a specific district.

With the availability of the cell phone application the focus must now be placed on stimulating dairy farmers to record and report disease problems as they occur at farm level.

The electronic system was adapted to enable the veterinarian to view all dairy farmers at once, in order to get a real time overview of disease problems as they develop during the course of the current month.

Actions for 2016:

- Demonstrate to veterinarians and dairy farmers how the “Disease Overview” can be used to practically manage individual disease conditions more effectively. The monthly specialized report for all dairy farmers will be used for this purpose.
- Establish the communication channel between individual veterinary practices and their farmer clients by getting dairy farmers to use the cell phone application to give the veterinarian a real time overview of the disease problems which the dairy farmer is currently dealing with on his/her farm.
- Establish closer cooperation with the state veterinary services in order to identify the control of bovine brucellosis as a priority disease for the dairy industry and for the overall veterinary strategy for the country.



Helene Pheiffer
Project Manager

7.6 Project title: Empowerment in the primary industry sector: Training, technology transfer, skills development with mentorship of previously disadvantaged individuals in the primary livestock/dairy sector.

- Responsible institution:** Milk Producers' Organization
- Objective of the project:** Skills development of previously disadvantaged individuals (farm workers and emerging milk producers) through training and technology transfer.
- Description of the project:**

The project addresses animal health, udder health, milk production, financial management, milk harvesting, milk quality, milk recording, milk hygiene, vaccines and immunisation, nutrition, breeding, reproduction, animal husbandry, goat farming, productivity and free market system, motivation and work ethics, milk harvesting, training and technology transfer.

Training that addresses cost-effectiveness is indispensable where milk producers are battling high input costs and low margins. Effective dairy management has a direct influence on milk quality and safety.

iv. Summary of project performance:

The MPO presented AgriSeta accredited skills development programmes to farmworkers of the commercial dairy farmers and emerging farmers who produce purposefully for trade in the formal market. A total of 118 (19%) students were trained on emerging farms and 81% farmworkers of commercial farmers were trained.

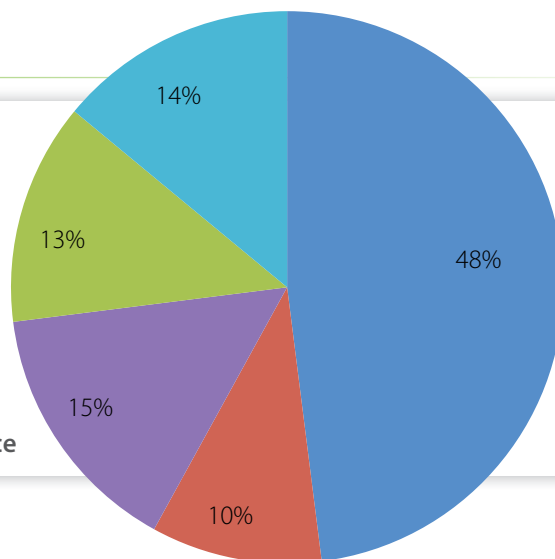
These 5-day courses included: Dairy Production, Artificial Insemination, Occupational Health and Safety

and the Dairy Code of Practice for Milk Producers, Socio-Economic Empowerment and Tractor maintenance.

The Milk SA project trained a total of 628 students in 45 courses that were presented in the various regions of South Africa. A total of 94% (590) students passed their assessments and were issued with certificates of competence. Only 2% (13) students failed their assessments and 4% (25) students did not attend the assessment sessions.

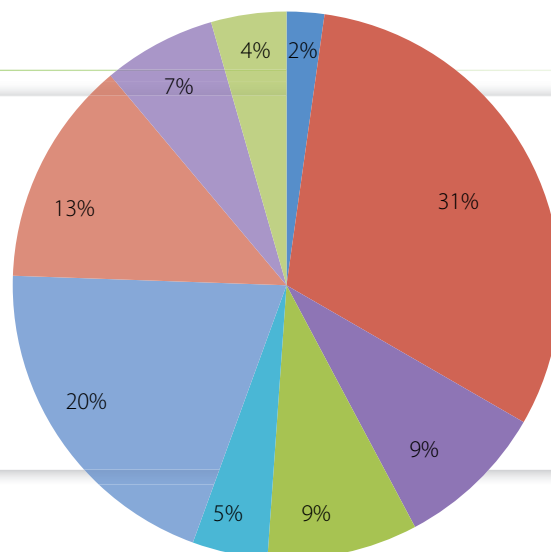
Courses presented and students trained:

- Dairy Production
- Artificial Insemination
- Tractor Maintenance
- Social-Economic Empowerment
- OHS-Code of Practice



Training in various regions:

- Gauteng
- KZN
- Mpumalanga
- Limpopo
- North West
- Eastern Cape
- Western Cape
- Northern Cape
- Free State



7.7 Project title: Empowerment in the primary industry sector: Mentoring of developing dairy farmers in the primary sector.

i. **Responsible institution:** Milk Producers' Organization

ii. **Objective of the project:** To assist Elim dairy with mentorship, to become a fully-fledged commercial enterprise.

iii. General information

- The Elim dairy project started in September 2007 when 47 cows were donated by the Western Cape Department of Agriculture from its Outeniqua research farm in George, and Milk SA became involved in mentorship during the same year.
- Elim is situated near Bredasdorp and is an old missionary town and home to some 2 000 residents. The Moravian Church owns most of the town and plays a pivotal role in the community. Amongst others, it is responsible for the Elim Home, an institution for mentally and physically disabled children, a crèche and an old-age home. In support of the Elim Dairy Project the church is leasing land to the dairy.
- Despite obstacles such as land limitations imposed by the Heritage Foundation the dairy has been growing. The Western Cape Government, through the Community Project Assessment Committee (CPAC) supported Elim as an emerging dairy project and has donated funds for implements, irrigation, cows, electricity, a pump house and fertiliser. Support from the Western Cape Government continued until February 2014.
- The dairy covers more than a 100 ha dry land and 45 ha irrigated land. At present, there are 168 cows in milk which deliver an average volume of 16 ℓ per cow.
- Other role-players contributed to the success of the project, such as input providers and the Outeniqua Research Station.

iv. Summary of project performance

- The mentor (Mr Willie Cronjé) visited Elim twenty five times during the course of 2015 and also attended board of directors' and technical committee meetings. The mentor ensured the implementation of sound management practices, which were especially required during the tight economic situation of 2015.
- The following matters were addressed during 2015:
Pasture management: Elim investigated the implementation of a pivot system. It is a prolonged process as it requires a huge capital investment and additional requirements such as water registration and community approval. The implementation of a pivot system is critical for herd expansion to 200 cows in milk. The economic situation and decrease in the milk price postponed this short term objective. Only 60 ha, instead of 130ha, of dry land pastures were prepared for 2015. Weather conditions (excessive rain) had a detrimental effect on the dry land quality and drainage of the irrigated pastures. Elim had to purchase additional hay and lucerne. The lack of roughage also contributed to the decrease in the average milk production during the course of the year.

Herd and herd health management: Herd health was generally very good during 2015. Some cases of redwater were reported in January and incidents of redwater, milk fever and fly allergies were also reported in the 4th quarter. The total herd of Elim increased with 10% from 347 in January to 382 in December. Cows in milk also increased with 10% from 161 in January to 177 in December. Reproduction was a problem in the beginning of 2015, but Dr Carl Muller from Elsenburg Agricultural College assisted Elim to increase the production rate.

Personnel management: The herd manager resigned in June 2015 and the board of directors decided to rather make an internal than an external appointment. One of the female workers is acting as herd manager and the board of directors also



changed their management approach by being more involved and sharing responsibility in the various disciplines of the dairy. The personnel are highly committed and motivated. A dairy production course as well as in-house training was presented to the personnel during 2015.

Financial management: Elim has a sound financial position, but the decrease in the milk price had a significant effect on the cash flow and feed production. Proper financial management, saving and avoidance of unnecessary spending were therefore regarded as a critical priority during 2015.

- Mr Jas Wasserman (master mentor) visited Elim during August and November. He introduced extra

production recording practices and advised the Elim team, on a monthly basis, on the results of the milk recording data. The tidiness and management practices at Elim are commendable, despite the economic challenges during 2015.

- Milk SA has been involved in the mentoring of Elim since 2007. Elim is regarded as a successful emerging dairy farm and the decision was taken by Milk SA to exit the mentor program as a Milk SA project. The board of directors of Elim asked for extension of the mentorship program and Mr Cronje decided to remain as mentor in his private capacity. The MPO will continue to support Elim with training programmes and advice.

7.8 Project title: Empowerment in the primary industry sector: Design and Development of the Curriculum as well as Learning Material Development for a Dairy Farming Occupational Qualification

i. **Responsible institution:** SA Milk Producers' Organisation

ii. **Objective of the project:**

The Minister of Higher Education and Training (HET) launched the QCTO (Quality Council for Trades and Occupations) in February 2010. With this launch, South Africa entered a new dispensation for the development of occupational qualifications. A new structure (the QCTO) and a new model for qualification development were established. The implication of this is that the SGB generated qualifications currently registered on the NQF (National Qualifications Framework) will need to be replaced as they will become redundant at the expiry dates. Therefore, currently registered qualifications need to be replaced according to the QCTO model. The development process

prescribed by the QCTO deviates quite substantially from the previous SAQA model in order to address the needs of the workplace in a more specified manner.

The AgriSeta and QCTO (Quality Council for Trade and Occupations) concluded an agreement with the MPO in 2012 to design the Dairy Occupational Curriculum. The design of the curriculum took place in 2012 and was funded by AgriSeta. Milk SA has funded the development of the content of the design since 2013.

The Dairy occupational qualification consists of three levels: the Dairy Farm Worker, Dairy Farm Supervisor and Dairy Herd Manager. The content of this qualification, including learning material, knowledge assessments, practical

learning assessments and work experience outline (logbook), was completed in 2014.

The goals for 2015 were defined so as to finalize the:

- Development and evaluation (verification) of the learning material aligned to the knowledge module specification for the Dairy Farm Worker, Dairy Farm Supervisor and Dairy Farm Herd Manager.
- Internal assessment instruments for the knowledge module specification for the Dairy Farm Worker, Dairy Farm Supervisor and Dairy Farm Herd Manager.
- Practical learning exercises and required resources aligned with the practical modules for the Dairy Farm Worker, Dairy Farm Supervisor and Dairy Farm Herd Manager.



iii. Summary of project achievements:

The second edition of *"The Milk SA Guide to Dairy Farming in South Africa"* was finalised by the MPO and includes all the modules applicable to the Dairy Farmworker qualification.

The Dairy Supervisor qualification comprises the following modules:

- Module 1: South African Dairy Farming Environment
- Module 2: Dairy Calf and Heifer Rearing, Feeding and Health Care
- Module 3: Dairy Animal Health Care
- Module 4: Dairy Animal Production
- Module 5: Dairy Livestock Feeding
- Module 6: Milk Harvesting and In-Parlour Processing
- Module 7: Team Leadership
- Module 8: Occupational Health and Safety – Code Of Practice for Milk
- Producers

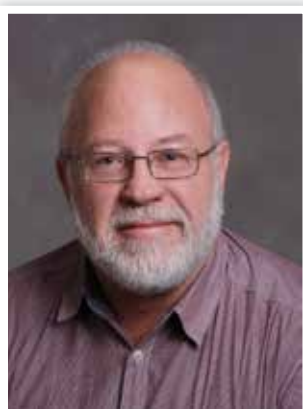
The Dairy Herd Manager's qualification comprises the following modules:

- Module 9: Dairy Farm Production Management
- Module 10: Farm Business Management
- Module 11: Pasture Management

The development of the learning material included knowledge content development, verification of the content, assessment development, editing, layout and printing. To date the following goals have been reached:

- Completion of the Dairy farmworker learning and assessment material.
- Completion of the Dairy Farm Supervisor learning and assessment material.
- Content development, verification and editing of Modules 9 and 10 of the Dairy Herd Manager's qualification.
- Development of an additional Pasture Management module (Module 11).
- Facilitators have been trained in the various modules of the Dairy Farmworker and Dairy Farm Supervisor.
- Piloting of the presentation and assessment of the Farmworker qualification took place during the course of 2015.

The MPO's appointment as AQP (Assessment Quality Partner) can only be finalised once the qualification has been registered by the QCTO.



Gerhard Venter
Project Manager

7.9 Project title: Empowerment in the secondary industry sector.

i. **Responsible institution:** SA Milk Processors' Organisation

ii. **Objective of the project:**

Skills development of previously disadvantaged individuals in the secondary dairy industry sector through training.

iii. **Outcomes of the project:**

GOAL 1: STRENGTHENING OF THE DAIRYMAN CURRICULUM TO FULL REGISTRATION

Activity a: Rendering support to FoodBev SETA (FBS) as (registered) Development Quality Partner (DQP) of the Dairyman qualification (via the Dairy Chamber of FBS; deploying subject matter expertise, discussions with both FBS targeted personnel and QCTO personnel).

Neither QCTO nor FBS had made any progress with the registration of the Dairyman curriculum since the first submission in November 2010 was made to the (then) ETQA Manager of FBS. The Milk SA project had to intervene by demanding that focused discussions be held with QCTO and the relevant FBS personnel so as to appoint a formal (registered) Qualification Development facilitator (QDF) and Learner QDF (who would have to be a food/dairy scientist) in order to direct the process in support of FBS. FBS had to approve budgetary allocations for this and the Milk SA project had to manage and partly fund the process. This was done so that all the necessary documents required by QCTO (Occupational Profile; Curriculum document; Qualification Document; Qualification External Assessment Specifications and Process Report) was eventually submitted to QCTO. See attached Appendix A (acknowledgement of receipt by QCTO) and Appendix B (Interim report from QDF on progress with Dairyman submission). Further developments are awaited.

Activity b: Finalization of the provisional Service Level Agreement (SLA) between SAMPRO and FBS in respect of developed curriculum/qualification quality assurance activities.

The drafted SLA (and the most important outputs emanating from the SLA, such as the Quality Management System) was finalized and signed but not effectively implemented, as certain minor elements like the identification and registration of external assessors and moderators were dependent on the registration of the curriculum and the approval (by FBS) of the QMS.

Activity c: Render support to FBS as Assessment Quality Partner (AQP) of the Dairyman qualification by finalizing and promulgation of the QMS as developed for Dairyman.

The QMS (policies, procedural descriptions and templates) was workshopped with a specialist of the ETQA and found acceptance for its utility and alignment with FBS processes and templates but final approval is still outstanding. The FBS has offered the explanation that this approval is dependent on final registration by QCTO. Further developments are awaited.

Activity d: Conducting joint industry-FBS public workshops on the implementation of the Dairyman qualification (covering the curriculum, modus operandi and QMS)

The delay caused by FBS's lack of knowledge and process support (even lacking a budgetary allocation) resulted in this endeavour not realizing in 2015. Industry was informed (as regards the processors and private providers) that such workshops would have to be conducted, but the delay prevented arrangements in this regard.

Note: Everything that was possible from the project's perspective was done in respect of the four major activities reported on above. The fact remains that FBS is registered with QCTO as both Development and Assessment Quality Partner (DQP & AQP) and the lack of productivity at both QCTO and FBS resulted in only certain outputs being reached by the project, despite the intense support-rendering from the project to enhance progress.

GOAL 2: COMPLETION OF PROVISION PROCESS TO LEARNERS INVOLVED IN THE PILOT STUDY (2011/2012) AND 2014 ROUND OF PROVISION IN RESPECT OF THE DAIRYMAN QUALIFICATION

Activity a: Guide learners who did not successfully complete the theory phase to completion thereof

All planned and scheduled theory workshops have been held and a full round of on-site visits conducted to advise learners and their on-site mentors how to complete (where applicable) the theory component.

Activity b: Guide learners who did not successfully complete the Practical and Workplace Experience phases, to completion thereof

Special attention was paid in cases where the internal Practical assessment had not been conducted, to inform on-site mentors about the process and assessment tools for completion.

Activity c: Guide enterprise based mentors and learners in finalizing the prescribed Portfolios of Evidence, containing all achievements required for exit moderation of the internal assessment phase, as prerequisite for engagement in the external assessment phase

Intensive information sessions were conducted with on-site mentors and learners to explain and strategize ways of complying with the prescriptions for evidence collecting and insertion into the required Portfolio of Evidence (per learner) for final exit moderation by FBS, prior to final external assessment.

Activity d: Conducting the external assessment phase for engaged learners in terms of the allocated activities captured in the SLA with FBS (may include assessments and/or moderations)

Only 8 of 21 learners (2014 Dairyman group) (and none extra of pilot study 2011/2012) could be subjected to the final external assessment, as their Portfolios of Evidence were up to standard. Others are known to be very near to completion, but further final assessments will only be possible in 2016.

Activity e: Reporting on the achievements of successful learners in terms of the QMS to FBS, so as to obtain final certification by QCTO.

This could not realize as the delay in registration of the Dairyman curriculum has spill-over effects resulting in delays in a number of aspects of implementation, such as the QMS not yet approved; the SLA not coming into full effect; reporting cannot be done and certification has not been clarified in terms of responsibility (will it be QCTO or FBS?).

Note: The lack of progress in the important processes of QCTO and FBS, results in a stationary endeavour into which large sums of money have been committed since 2008/9 by industry. This is an important initiative that has a great impact on the competitiveness of the dairy industry and could make a big difference in the empowerment of human capital with the skills and knowledge needed for effective transformation.

GOAL 3: PROVISION OF A ROUND OF THEORY PROVISION FOR NEW LEARNERS (MAY INCLUDE STRAGGLERS FROM PILOT STUDY OR 2014)

Activity a: Schedule and conduct two rounds of Dairyman workshops (6 in total) for theory subjects 1; 2 and 4 of which 3 is presented in the northern regions and the remainder in the southern regions of the country (30 learners in total envisaged). SAMPRO (managing the project) will budget for and supply learning materials and provision (including internal assessment).

Workshops were conducted as planned and scheduled. Longer (6-day) workshops done and number reduced to 2 only instead of 6.

Activity b: Schedule and conduct one round of workshops in such specialization subjects (subject 3 of which 10 varieties exist according to the curriculum) as would be required for learners (30 learners in total envisaged). SAMPRO (managing the project) will budget for and supply learning materials and provision (including internal assessment).

Workshops were conducted as planned and scheduled. 7 workshops in total required.

GOAL 4: MAKING SUBJECT MATTER EXPERTISE AVAILABLE TO REDEVELOP THE QUALIFICATION FOR MILK RECEPTION OPERATOR AS FEEDER QUALIFICATION FOR DAIRYMAN, AS CURRICULUM-BASED QUALIFICATION, IN SUPPORT OF FBS (THE REGISTERED DQP AND AQP)

Activity a: Assist FBS in mobilizing the QCTO process prescribed for qualification development (such as nominating and gathering the Constituency Group; communicating with Communities of Expert Practitioners and conducting revision and approval meetings).

Submitted names and got Constituency Group (CG) appointed by FBS (via Dairy Chamber). Planned schedule of meetings and outputs per meeting and got same approved. Assisted LQDF with agendas for CG meetings and considerations for documents that needed to be developed.

Activity b: Develop the Curriculum document; Qualification document; Qualification Assessment specifications and Process Report (deploying a consultant) for submission to QCTO via FBS to evaluate and approve for registration.

Three of four required documents have been developed. The fourth is the Process Report (drafted) and can only be provisionally compiled by the third meeting (electronic gathering of evidence of consultation) and approved by the fourth meeting. The latter had to be scheduled for early 2016 as the SETA had a lack of capacity for such.

Activity c: Repackage the existing learning materials required, with Powerpoint presentations as learning aids to address the curriculum requirements for Milk Reception Operator (including theory modules and assessment questionnaires; practical modules and assessment observation checklists; workplace experience logbooks; finishing theory manual; final external theory questionnaires (3) and final practical observation checklist.

No achievements were possible. Learning materials cannot be redesigned and repackaged prior to registration of a curriculum. To stand over to 2016.

GOAL 5: SUPPORT FOR TRAINING OF UNEMPLOYED SCHOOL-LEAVERS IN DAIRY TECHNICAL LEARNERSHIPS

Activity a: Contribute partial training fee per learner, disbursed according to the management model deployed in 2014 (three installments; 50%; 25% and 25%).

All payments made in terms of management model as agreed with contracted provider.

Activity b: Provide learning materials to recruited learners (school-leavers), on-site, in printed form and enclosed in lever arch files, surface mailed/couriered.

Supplied on-site to all participating enterprises at required dates.

GOAL 6: SUPPORT TERTIARY EDUCATION AND TRAINING IN DAIRY/FOOD-RELATED STUDIES

Activity a: Recruit, award and administrate bursaries for final year and honours-level students at selected tertiary education and training institutions, in accordance with the existing bursary scheme.

All bursary beneficiaries as planned recruited, bursaries awarded, payments made and first and second semester reports received.

Activity b: Support tertiary students to attend the annual SASDT symposium in terms of the existing model, together with marketing activities for the project (exhibition at SASDT symposium).

Full number of students (planned for) supported with registration fee, travel cost, accommodation cost and subsistence fee to attend SASDT symposium.

GOAL 7: RENDER SUBJECT MATTER EXPERTISE BASED SERVICES TO INDUSTRY BY SERVING ON SELECTED FORUMS.

Attended scheduled meetings and gave technical inputs to the following (except during recuperation period in first quarter after surgery or when conducting Dairyman workshops or on-site consultation meetings with learners and mentors):

- Advisory sub-committee: Transformation – Secondary Industry Skills Development
- Advisory sub-committee: Transformation – Primary Industry Skills Development
- Advisory Committee: Transformation (main committee)
- Advisory Committee: Research and Development
- Technical Committee: SAMPRO
- Technical Committee: Dairy Standard Agency
- Dairy Chamber of FoodBev SETA
- Constituency Group: Milk Reception Operator



Godfrey Rathogwa
Project Manager

7.10 Project title: Empowerment / Transformation: Co-ordination

- i. **Responsible institution:** Milk South Africa under leadership of Mr M Godfrey Rathogwa (Transformation Manager & Director of Milk SA)
- ii. **Mandate given by the Minister of Agriculture to Milk SA:**
The statutory regulations were approved subject to certain conditions, of which one is to appoint a Transformation Manager to drive the empowerment programmes in the dairy industry which are funded by statutory levies. The Board of Directors appointed Mr M Godfrey Rathogwa in this position in August 2009.
- iii. **Summary of project achievements:**

GOAL 1 - IMPLEMENTATION OF SUSTAINABLE COMMERCIALIZATION DAIRY PROGRAMME

Activity 1: Electrification of farms

As reported during the previous annual report, electricity was brought to six farms. However, two of the farms were not using electricity. One was not using electricity due to faulty connections to the milking parlour while the other entrepreneur was not using it because of the low number of cows being milked. The main highlight of electrification of farms is the saving of at least 50% of the cost they used to incur while using diesel and generators. Two farms have been identified to be electrified at a cost of about R560 000 during the next financial year.

Activity 2: Supply of heifers

The supply of heifers is dependent largely on the preparedness of the entrepreneur to receive them in terms of the fodder flow situation and the availability of preferred dairy breed heifers. To ensure that farmers receive heifers of acceptable quality, Milk SA makes use of an independent livestock broker and independent dairy enterprise expert to ensure value for money.

During the year under review no heifers were supplied due to inadequate fodder on the farms and outstanding qualifying information from other potential project beneficiaries. Currently negotiations are taking place among farmers, Jobs Fund and a certain financial institution to ensure sufficient working capital to buy feed to safeguard animals already supplied. At the time of writing the report, 123 heifers had already been supplied to eight farmers. The balance heifers of 277 are to be supplied during 2016 and 2017 depending on the weather circumstances.



The Transformation Manager
facilitating a workshop in Qwa Qwa.

Activity 3: Milking machines

Eight milking machines have been upgraded during the period under review. Six of these milking machines were dysfunctional from the date of delivery and parts had to be ordered from overseas.

Activity 4: Pasture establishment

This project intends to establish at least ten hectares of permanent pasture per farm to ensure optimal flow of fodder all year round. During the year under review, project beneficiaries were advised to plough their land for pasture establishment by December 2015 to ensure that planting happened during a rainy season. However, due to the current severe drought experienced since last summer and unavailability of tractors, no permanent pasture has been planted. This activity has been deferred to a later time when it will start to rain, hopefully from September to December 2016.

Activity 5: Volume of milk delivered to buyers

Eight farmers have delivered five hundred and ninety four thousand three hundred and forty four litres (594 344 l) of milk during the period under review. This is about a 6% increase from the previous year's delivery of 559

211 litres. The small increase from the previous year can be attributed to drought, poor breeding and feeding programmes. During 2016 Milk SA will assist project beneficiaries with feed during winter to contribute to cow productivity.

GOAL 2 - SMALLHOLDER DAIRY ENTREPRENEUR DATABASE

Data on black dairy entrepreneurs has been maintained. The matter has also been discussed with the National Agricultural Marketing Council regarding the supply of data on black dairy enterprises. It was agreed that it was not the responsibility of Milk SA alone to keep and provide data on black dairy enterprises. In the meantime a draft data governance charter has been developed to ensure that entrepreneur privacy is honoured and information to outside people is clearly motivated and approved before given.

GOAL 3 - GENERAL LIAISON / STAKEHOLDER ENGAGEMENT

African Farmers Association of South Africa (AFASA) Workshop

During the period under review an AFASA workshop was attended on 28 January 2015 to discuss

commodity transformation progress, challenges and strategies to bring about meaningful transformation in agriculture. Milk SA's approach of assisting existing dairy entrepreneurs was shared with participants of the workshop.

One participant expressed the view that Milk SA was not doing enough to facilitate transformation, but failed to substantiate his claim. The workshop was nonetheless reminded that Milk SA was just one of the role-players; that it alone could not be held responsible for the pace of transformation as it did not have unlimited resources; and that agricultural development was the competency of provincial agriculture. At the end of the day, it was agreed that dairy enterprises were complex and needed the full attention of the entrepreneur.

Agro Processing Forum

One Agro Processing Forum conference was attended during the period under review. It was held in Polokwane on 23 September 2015. Jobs Fund, IDC, the DTI, AgriSA, AFASA and Limpopo Department of Agriculture representatives explained what their institutions do to promote marketing of agricultural products. Small scale agribusiness entrepreneurs were also participants of the workshop.

Agricultural Marketing Forum

Three Agricultural Marketing Forum conferences were attended during the year under review. At these meetings commodity transformation managers were requested to share with conference delegates their experiences regarding transformation. Milk SA submitted its document which had been submitted to the Board previously.

According to DAFF, documents submitted at the conferences would be taken to the department of Rural Development and Land Reform. These meetings were held in Cape Town, Pretoria and Tzaneen respectively. The focus of the meetings was on what can be done to assist small holder agricultural enterprises to market their products effectively and efficiently. What was learnt was that dairy was not a priority in terms of the agricultural policy action programme in some of the provinces.

Agri-SA meeting

The Integrated Farmers Forum meeting under the auspices of Agri-SA took place on 22 September 2015. The focus of the meeting was on the communal land tenure system and its impact on agricultural development.

Department of Trade and Industry

During the period under review a representative of the DTI was taken to see dairy enterprises in KwaZulu-Natal and Free State. The purpose of the visit was to assess the situation for potential intervention to assist entrepreneurs who were already processing raw milk into other dairy products to become more sustainable. Those who were already processing own milk were given application forms to apply for DTI's assistance incentives. The challenge is that at times potential beneficiaries are less competent to fill in the forms while at other times, even those who are capable financially and skills-wise, still want work to be done for them, but are not sufficiently proactive to approach those who can assist.

NAMC (National Agricultural Marketing Council)

A few engagements were made with the NAMC: Chair of NAMC Transformation Review Committee, Senior Manager: Statutory Measures and its CEO regarding transformation guidelines, the commercialization project progress and challenges, participation of black dairy entrepreneurs in dairy processing and enterprise development expenditure.

The NAMC was informed of the work which was being done by Milk SA and its challenges regarding transformation in the dairy industry. The main challenge was adequate fodder flow and working capital on some farms. The chairperson of the NAMC's Transformation Review Committee was, however, appreciative of the work which was being done by Milk SA.

It was emphasised to the NAMC that Milk SA was focused on making a sustainable impact which in turn also demands total commitment from transformation programme beneficiaries and other relevant stakeholders/role players.

During the year under review, a workshop was also organized by the NAMC on norms and standards regarding the support for agricultural development. The workshop was held in Johannesburg and the following points, which were deliberated by the workshop, are pertinent to Milk SA regarding the transformation programme:

- Proper selection of farmers and projects are of paramount importance.
- Research was fragmented and funds driven.
- Extension officers must be facilitators and communicators.
- Training should take place before giving money to farmers.
- There should be an assessment of skills against type of enterprise to be undertaken.
- Group farming was not appropriate to fast-track development.

- There must be clear responsibilities of mentor and mentee.
- Knowledge should be co-created by all involved in training.
- Support for farmers must follow a value chain and must deliver specific results such as economic development, economic transformation, and competitiveness among other metrics.

Provincial Transformation Workshops

During the year under review, four dairy industry transformation workshops were held in the following provinces: Western Cape (17 November 2015), Free State, QwaQwa (20 November 2015), KwaZulu-Natal, Ixopo (01 December 2015) and Mpumalanga, Mbombela (9th December 2015).

The purpose of the workshops was to build relationships, share experiences and promote



partnerships in development. Participation at the workshops was as follows: Western Cape: 24, Free State: 33, KwaZulu-Natal: 61 and Mpumalanga: 43. The theme of the workshops was "Enterprise Culture + Productivity + Efficiency + Quality Products / Service = Competitiveness and Sustainability".

The workshop covered the following aspects:

- Milk SA's role in dairy development.
- Milk SA's dairy industry transformation programme activities.
- Provincial Departments of Agriculture's position regarding small dairy development, challenges and opportunities.
- Levy payers and levy rates.
- Strategies to support survival, competitiveness and sustainability of small dairy enterprises.
- International dairy competitiveness.
- Feeding dairy cows for productivity and profitability.
- Factors influencing milk price.

Participants of the workshops highlighted the following as challenges facing small scale dairy entrepreneurs:

- High cost of land.
- High cost of equipment and mechanization.
- High infrastructure maintenance and replacement cost.
- High cost of labour.
- High energy cost.
- Farmers complained about poor service delivery and empty promises.

As strategies for enhancing small dairy entrepreneur success, participants made the following recommendations:

- Entrepreneur farmers should form study groups.
- Entrepreneur farmers should form commodity groups in order to improve delivery of both private and public assistance.
- Entrepreneurs should buy feeds as a group in order to obtain discounts.
- Enterprises should be run simply and efficiently.
- Feeding should be correct to ensure high percentage of butterfat and protein as important factors, including quality, in price determination.

Agricultural Value Chain Workshop

The Department of Rural Development and Land Reform and the Department of Agriculture, Forestry and Fisheries organized a workshop during the period under review. Milk SA was requested to provide its transformation strategy and the document which previously had been submitted to the Transformation Advisory Committee, Milk SA Board and DAFF was submitted, but no response has been received.

Department of Trade and Industry

Enquiries were received from the DTI regarding dairy processors and black dairy entrepreneurs. The matter was referred to SAMPRO for their attention. Furthermore, the Competition Commission also requested a list of black dairy entrepreneurs. They were advised that the list was not for public consumption and that they should approach organizations which claimed to be working with small black dairy entrepreneurs.

Various role-players

Meetings were held with various other role-players regarding the Transformation programme. These include Dairy for Life project manager, Fort Hare Dairy Manager, and some commercial farmers.

Department of Agriculture, Forestry and Fisheries (DAFF)

Communication was maintained with DAFF - especially the BEE Directorate to be kept abreast of BEE issues - and various provincial departments of Agriculture and Marketing Directorates. DAFF was pointed to the nearby dairy enterprise to expose visitors from abroad.

GOAL 4 - COMPETENCY DEVELOPMENT

The aim was to develop business competency of aspirant dairy entrepreneurs. However, no formal training took place during the period under review.



Christine Leighton
Project Manager

7.11 Project title: Dairy Consumer Education

i. Responsible Institution: SA Milk Processors' Organization

ii. Objective of the project:

In terms of Regulation 1218 of 2013 issued in terms of the Agricultural Marketing Act (47 of 1996), part of the income from the levies on dairy products should be spent by Milk SA on consumer education. In this regulation the following is stated: "From a national point of view and to promote the viability of the dairy industry, consumers should be informed of the health and nutritional advantage of milk and other dairy products. Informed consumers will not only contribute to the national well-being in respect of nutrition and health, but especially also to the viability and sound development of the dairy industry. The education will be conducted in such a way that it will not erode the marketing activities of any firm in the dairy industry that is aimed at differentiating its products from that of competitors."

Messages of a general nature regarding the health and nutritional advantages of dairy products are conveyed to consumers, and pro-active & reactive messages regarding the health and nutritional advantages of dairy products are also conveyed to selected target groups that are opinion formers in the South African society.

iii. Nature of the project: The Consumer Education Project (CEP) is a multi-channel health and nutrition-based campaign to convey the health and nutritional benefits of milk and other dairy products to consumers and health professionals. The communication campaign consists of two elements, namely a General communication element and a Specialized communication element. Both elements are executed on an integrated basis. For both groups, the CEP concentrates on conveying the scientifically proven health and nutritional benefits of milk and dairy in the diet.

iv. Target groups: General communication is focused on consumers, mainly those in LSM [living standard measure] group 6–8, the fastest growing group in South Africa. Specialized communication is directed at health professionals (mainly dietitians, nutritionists, nutrition advisors and doctors and nurses).

v. The management structure of the project: The management structure reflects a multi-disciplinary nature and it involves experts in fields such as nutrition, consumer behaviour, dairy science and advertising.

vi. Summary of the project performance:

General communication communicates key messages and the following sub-projects fall under this element:

- Television advertisements and a social media campaign.
- School curriculum project including liaison with the Department of Basic Education.

- Consumer advertorials aimed at mothers of young children.
- Liaison with the Department of Health by participating in the National Nutrition Week.
- Wellness activity that takes place in the Government Clinics. The Wellness activity is one of the communication channels used to reach the target market of primarily LSM 3 to 7.

The success of the activities under the General Communication element is evident by the awards and acknowledgements received by the television and social media campaign locally and internationally in 2015 and previously.

The following sub-projects fall under the element of Specialized communication:

- A print campaign aimed at health professionals which uses new research results in the field of dairy nutrition and health, to publish advertorials and nutrition reviews for this target audience.

- Integration with Nutrition Advisors at government clinics.
- A 'Dairy attitude survey' among dietitians and nutritionists in South Africa. The results of the research will be available in 2016.
- Participation in research conducted among elderly consumers and investigation of the impact of maas consumption and physical activity. The results will also be available in 2016.
- Presentations at university level: all second and final year dietetic students are equipped with the 'Dairy-Based-Nutrition' educational booklet, developed by the CEP, for use in their future careers.
- Distribution of the Educational Tool to clinics.
- Continuing Professional Development events held for health professionals.
- All the messages are communicated under the umbrella messages "Rediscover dairy", "3-ADAY" and/or Dairy gives you go.

The website can be visited at www.rediscoverdairy.co.za.



The "Dairy gives you go" campaign of Milk SA's Consumer Education Project received an award for the best television and social media campaign at the 2015 International Dairy Federation's World Dairy Summit on 23 September 2015.



Jompie Burger
Project Manager

7.12 Project title: Improvement of Dairy Quality and Safety

i. **Institution responsible for the project:** Dairy Standard Agency

ii. **Purpose of the project:**

The main objective is the promotion of compliance of milk and other dairy products with product composition, food safety and metrology standards.

iii. **Summary of the project performance:**

GOAL 1 - NATIONAL MILK MONITORING IN COLLABORATION WITH HEALTH AUTHORITIES

The quarterly sample runs for 2015 were successfully completed as per predetermined schedules. The total number of samples of milk and other dairy products are as per table 1 below:

Dairy product	Number of samples
Fresh milk in the categories named packed pasteurised and unpasteurised, pasteurised, pasteurised and unpasteurised retail bulk milk	1 488
Yogurt including plain, flavoured and yogurt with added fruit and / or foodstuffs and drinking yogurt	197
Cultured milk (Amasi)	127
Butter	53
Cream	112
Cheese (various classes)	230
UHT, ultra-high pasteurised and sterilised milk	78
Condensed milk	32
Powdered milk	20
Dairy desserts	28
Total number of samples	2 365

On average eight Metropolitan Municipalities, 13 District Municipalities and 64 Local Municipalities participated in the sampling runs representing all provinces. As per procedure, results of all milk and other dairy products were benchmarked against food safety, compositional and trade metrology standards as respectively gazetted under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act 54 of 1972), Agricultural Product Standards Act, 1990 (Act 119 of 1990) and where applicable, the Trade Metrology Act, 1973 (Act 77 of 1973).

As per protocol, sample results were e-mailed and/or faxed to participating authorities and contact details were updated. The collection of contact information of processing facilities is considered an ongoing process and requests for the purpose of updating contact details have been communicated to all processors.

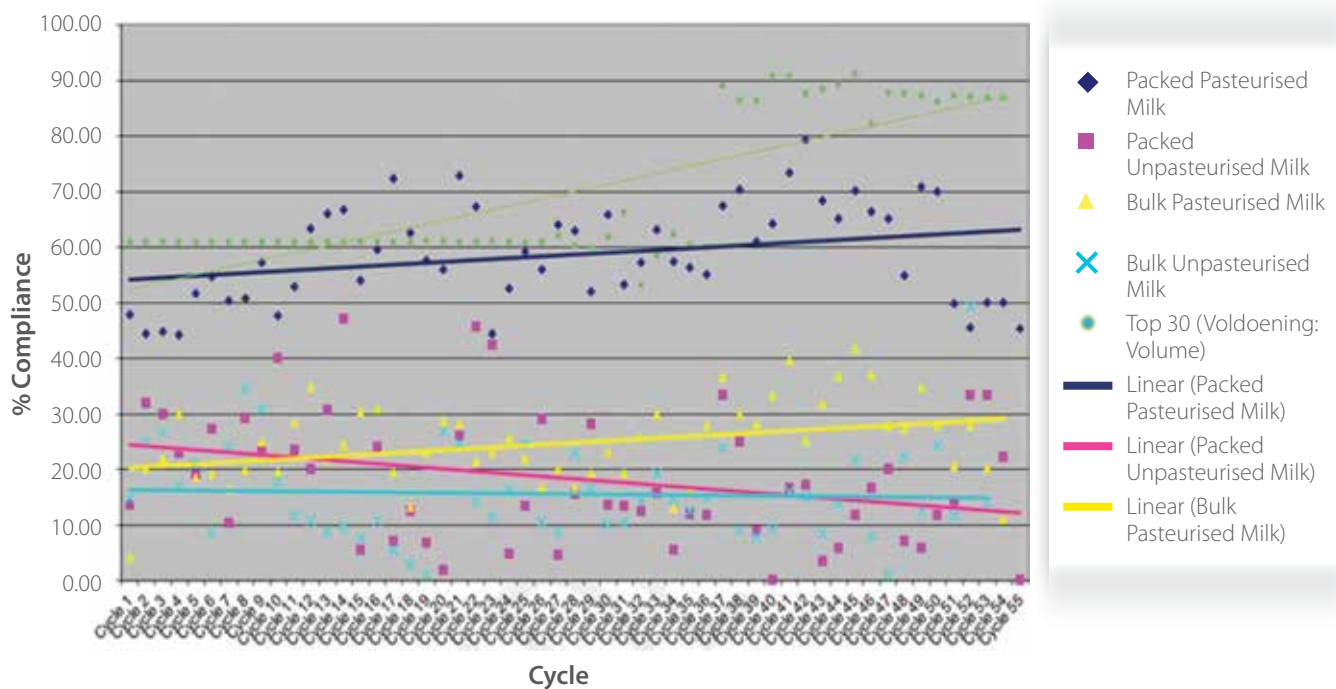
Non-conforming results obtained were assessed and communicated to all the respective processors and manufacturers identified. Non-conformance reports of continued substandard results were generated and forwarded to the relevant authorities as official

complaints. These included separate reports reflecting the following non-conformances:

- >2% Added Water;
- Inhibitory substance positive;
- Phosphatase positive;
- E.coli positive.

The following graph represents a comparison between the four main categories of fresh milk namely packed pasteurised, packed unpasteurised, retail bulk pasteurised and unpasteurised milk:

Trend Analyses over a 55cycle period (national) • Comparison between the four main distribution types and packaging – compliance according to DSA classification system *November 2002 – December 2015*



As reflected in the quarterly reports, it is important to note that the above results are a reflection of the sample populations of the four different categories of milk sampled in terms of the DSA national dairy monitoring programme whereby milk samples are deliberately taken on a risk-based principle so as to identify possible non conformities. Results should therefore not be interpreted as being representative of the national status of fresh milk in South Africa.

It is known that more than 85% of packed fresh milk offered for sale in the retail, finds its origin from the top thirty dairy processors on a national level. To distinguish between the sample results reflecting on the general status of all packed pasteurized milk (dark blue) and the results from the top thirty processors (light green) a clear picture can however be obtained regarding the compliance rate of the top thirty within the sample populations.

Although most dairy products performed satisfactorily, a major concern is the categories packed unpasteurized, retail bulk pasteurized and unpasteurized milk, which continuously indicate a negative compliance rate in critical food safety standards. This is mainly due to poor control measures and the unlawful sale of substandard milk to the end user.

DSA in terms of its project protocol and relationships with the relevant authorities continuously worked with the relevant law enforcement bodies, providing support through dairy technical information, workshops and guideline documents to limit the sale of non-conforming products.

GOAL 2 - INVESTIGATIONS OF COMPLAINTS I.R.O. PRODUCT COMPLIANCE WITH LEGAL REQUIREMENTS

Investigation of complaints related to:

- Non-conforming milk sold in the Western Cape and Gauteng.
- Misleading labelling practices of imitation dairy products.
- Foreign body material in fresh milk.
- Non-conforming milk due to sub-standard microbiological quality (4).
- Milk unfit for human consumption.

- Milk with quality defects (rancid taste).
- Fruit yoghurt not complying with compositional standards.

All complaints were documented, investigated and closed.

GOAL 3 - SPECIAL INVESTIGATIONS

The addition of colourant and starch to cultured milk (Maas/Amazi) was investigated following a complaint received in the last quarter of 2014. 81 cultured milk samples were submitted for analysis of which 15 of the 81 evaluated samples (18.5 %) tested positive.

A comprehensive report as part of the standing agreement with the Department of Agriculture, Forestry and Fisheries in terms of the regulations under the Agricultural Product Standard Act, 1990, Act 119 of 1990 was submitted to the Directorate: Inspection Services for attention.

Imported UHT milk

An investigation in conjunction with the relevant directorate of DAFF was initiated in order to determine the compliance of imported UHT milk with national standards. Tests conducted on various production dates of UHT milk from three different countries included added water, phosphatase, inhibitory substances, E.coli, coliforms, butterfat, protein and solids non-fat were conducted. No non-conformances were recorded.

Aflatoxin M1 in fresh milk

An investigation regarding aflatoxin M1 in national (3 provinces) retail milk was conducted during the final quarter of 2015. The investigation was initiated following information gained from the DSA Risk Identification Project.

The MRL = 50ppt or as stipulated in R313 - Regulations governing tolerances for fungus-produced toxin (Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972) - milk containing more than 0,05 micrograms per kg aflatoxin M1.

	MP	NW	KZ
Samples submitted	50	75	64
Positive results	1	27	0
Exceed MRL of 50ppt or 0.05 microgram per kilogram	0	8	0
%	MP	NW	KZ
% No non conformance	98%	64%	100%
% Positive results	2%	36%	0%
% Exceed MRL of 50ppt /% Calculated on the total amount of samples submitted	0%	10%	0.0%
% Exceed MRL of 50ppt /% Calculated on the positive samples submitted	0%	29%	0.0%

The presence of levels of aflatoxin M1 above the prescribed legal limit is considered a serious food safety risk and therefore receives high priority with DSA in terms of facilitation of remedial action plans with the relevant authorities as well as industry members.

GOAL 4 - RISK IDENTIFICATION THROUGH STATISTICAL ANALYSIS

DSA compiled comprehensive statistical reports following the completion of each quarterly cycle. The reports were interpreted to determine possible industry specific food safety risks. All cycle results indicating non-conformances were subsequently communicated to the respective health authorities.

International food risk monitoring - The following websites and RSS feeds* were monitored on a weekly basis for possible food safety scares that might affect the local dairy industry:

- www.foodproductiondaily.com
- www.dairyreporter.com
- FSA newsletters and alerts
- Dairy Markets monthly newsletter
- www.fda.gov/Safety/Recalls/
- www.foodqualitynews.com/...Alerts/
- www.foodqualitynews.com/Food-Alerts/New-evidence-calms
- www.dairysafe.vic.gov.au/
- www.foodsafety.gov

- www.thefoodsafetynetwork
- International Food Safety Authorities Network (INFOSAN)
- European Union Rapid Alert System for Food and Feed (RASFF) – newsletters
- Google Alert - food poisoning; Food Production Daily
- www.foodpoisonjournal.com
- www.foodsafetynews.com
- www.recalls.gov.au
- efoodalert.net
- www.fastmoving.co.za

The focus remains on raw milk and milk products due to the prevailing high trend of food poisoning as a result of listeria cases reported internationally.

*RSS (Rich Site Summary) uses a family of standard web feed formats to publish frequently updated information: blog entries, news headlines, audio and video.

The report (Annexure A) of international food safety incidents and recalls are of particular interest to the Dairy Standard Agency. None of the food safety international alerts as per Annexure A in terms of imports posed a direct risk to the South African dairy industry.

The special investigation regarding Aflatoxin M1 indicated national food safety risks and remedial action plans are dealt with under the project 2.1 (Goal 6).

National food safety risk monitoring - Quarterly analysis and trending of results obtained from project 1 – National milk and other dairy product monitoring program in collaboration with health authorities were conducted.

The presence of high E.coli positive results identified in retail bulk milk and raw packed milk during quarterly cycle runs remained a persistent problem. As a result of the interaction with the municipal health authorities a further increase in retail bulk samples taken in comparison to 2014 were noted. This was mainly due to continuous difficulties experienced with the level of non-compliance (food safety and product composition) of packed unpasteurized and retail bulk milk and follow-up samples by the health authorities based on risk. Non-compliances were communicated to the owners of the relevant businesses and health authorities. Lack of law enforcement remained a common problem within the municipal health authorities in general. DSA procedures were followed to ensure that follow-up work was done according to the project relating to remedial action with producer/distributors and processors (Project 5).

GOAL 5 - REMEDIAL ACTION PROGRAMMES WITH PRODUCER-DISTRIBUTORS (PD's) AND DISTRIBUTORS

All non-conforming results obtained through analysis of samples submitted by EHPs were communicated to processors and PDs by post or e-mail as well as via EHPs in the case where contact details were not available on the system.

The scheduled visits of the DSA to non-complying facilities were considered to be very successful as the interaction on a one-on-one basis has proved to produce positive outcomes in terms of compliance.

As in 2014, DSA continued to use DSA guideline documentation extensively during visits and consultation sessions relating to trouble shooting. As referred to

in 4.1.3, law enforcement in general is not actively practiced by the relevant health authorities. Remedial action programmes with producer-distributors (PDs) and distributors in this regard play a significant role with specific reference to assistance to small/medium dairy enterprises, in many cases not linked to the normal communication network of the organized dairy industry.

The relationships between the DSA and the respective authorities are of great importance in terms of this project, and DSA continued to facilitate statutory measures where possible. Facilitation also included workshops with health authorities at municipal district level. (See project 8).

Expansion of the activities of this project was considered a priority in terms of the DSA 2015 strategic approach, as the role of the DSA as industry self-regulatory initiative is increasingly acknowledged by the government departments and other stakeholders. This approach will continue during 2016.

GOAL 6 - COMMUNICATION WITH AUTHORITIES AND OTHER ORGANIZATIONS

Department of Health: Directorate Food Control

DSA in its supportive role assisted the industry with a substantial amount of queries relating to food labelling requirements as well as dairy technical matters which in several cases resulted in facilitation processes with the Directorate. DSA continued formal discussions meeting with officials of the directorate regarding the sale of

Jompie Burger
giving a lecture at a workshop
in Eden, Western Cape.



substandard retail bulk milk on a strategy to establish effective law enforcement at municipal level. Legal opinion regarding payment requests for the issue of certificates of acceptability and inspections by certain health authorities in terms of milk shed regulations were initiated. The DSA participated in the Food Legislative Advisory Group (Directorate Food Control) meetings in February and August 2015.

Municipal Health Authorities

Communication with the municipal health authorities based on information obtained from project 1 took place on a quarterly basis. Communication was primarily focused on the implementation of remedial action on non-conforming/substandard milk and other dairy products. Discussions resulted in two workshops scheduled in Eden District Municipality (Western Cape) and Buffalo City (Eastern Cape) in April 2015.

Department of Agriculture, Forestry and Fisheries (DAFF)

- Directorate: Inspection Services (IS)

All cycle results regarding infringements in terms of the Regulations relating to dairy and imitation dairy products, as a result of the DSA national monitoring program, were communicated to the Guardian Manager for the Agricultural Products Standards Task Team of the Directorate. Misleading claims, incorrect composition and labelling of dairy products continued to serve as a priority.

- Directorate Food Safety and Quality Assurance – FSQA (policy making)
Communication with FSQA included dairy product composition queries, interpretation of the new Regulations relating to dairy and imitation dairy products and the standards and requirements relating to the export of dairy products.

Misleading claims, incorrect composition and labelling of dairy products continued to serve as a priority. Communication regarding the sale of imitation dairy products and the composition of such products in the retail continued. This also led to the inspectorate of

the Western Cape region taking action against the sale of incorrectly labelled imitation dairy products in the retail.

DSA assisted with the facilitation process regarding industry dispensations relating to product compositional standards and labelling requirements. DSA upon invitation from DAFF and following industry participation submitted its application as proposed assignee of the Department to conduct certain tasks in terms of the relevant dairy regulations as provided for in terms of the Agricultural Product Standards Act.

- Directorate Animal Health

DSA participated in various industry meetings with the directorate in an attempt to resolve issues relating to the process of review of the Veterinary Procedural Notice 20. Formal discussions also took place in February with the Chief State Veterinarian Export Control of the Department of Agriculture: Western Cape Government to address VPN related matters and the role of DSA in export certification.

Positive results relating to inhibitory substances detected during the cycle runs were communicated to the department as part of collaboration on chemical residue control.

National Regulator for Compulsory Specifications (NRCS): Legal Metrology

Quarterly reports regarding metrology infringements were - where applicable - forwarded to the Senior Manager, Inspections: Legal Metrology NRCS, in terms of a standard agreement. Due to no infringements as a result of the DSA national milk monitoring programme, no formal report was forwarded in the fourth quarter of 2015.

Perishable Product Export Control Board (PPECB)

DSA liaison with PPECB is primarily focused on service rendering to the dairy industry in respect of inspection and testing of milk and other dairy products of export facilities as per standard operating procedures. DSA participated together with industry stakeholders and

**Jompie Burger presents the new
Code of Practice to Melt Loubser,
Chairman of SAMPRO.**



DAFF in the revision of the current Standard Operating Procedure for Inspection of Dairy Products Intended for Export in terms of the APS Act. This process is to continue by means of interaction between the organized dairy industry, other government departments and PPECB via Milk SA structures.

South African Bureau of Standards (SABS)

DSA serves on the Technical Committee 1038 : Dairy Standards, Sub-Committee 70D: Legal Metrology - sale of goods as well as giving inputs in the technical committee 1025 Hygiene practices in the food industry. DSA also participated in the SABS TC 1094, Livestock welfare, developing SANS 1694 (Standards relating to the welfare of dairy cattle) which is in the final stages of completion for public comment.

A formal workshop arranged by the SABS was attended together with other industry stakeholders to this effect. Formal meetings with SABS took place regarding the use of the SABS references in the development of the new DSA Code of Practice for the Secondary industry as well as amendments of SANS 1678 and SANS 1679 (Pasteurized and sterilized milk).

Communication with other organizations

Where possible DSA attended Milk SA Advisory Committee meetings on which it serves and also interacted on a regular basis. As standing arrangement, DSA regularly met with the Consumer Education Project Manager and SAMPRO Training to discuss relevant issues of importance between the said projects and DSA.

The services of the Project Manager of SAMPRO Training were extensively used in compiling the new DSA Code of Practice for the Secondary Industry. DSA during the second quarter continued to address the sale of raw milk which served as a priority. Follow up advertorials on dairy magazines continued in this regard as well as consultation with municipal health authorities.

DSA discussions with the Transformation Project Manager of Milk SA regarding extended services of the Commercialization of black farmers' project continued. Regular assistance to primary and secondary industry members regarding food safety and product compositional standards were ongoing. Upon request DSA rendered services to the Transformation Project of Milk SA by assessing eight milk production facilities related to the commercialization of black farmers' project. Regular assistance to primary and secondary industry members regarding food safety and product compositional standards were ongoing. DSA attended and exhibited at the MPO Gauteng Dairy Day at the Belnori estate near Bapsfontein.

CGCSA: FSI – DSA as member of the Food Safety Initiative (FSI) interacted on a regular basis with management. A formal meeting with the manager of the Food Safety Initiative (FSI) regarding the incorporation of the FSI guidelines into the new DSA Code of Practice for the secondary industry took place in February 2015. DSA signed new memoranda of agreement with two additional retail companies as part of the DSA strategy to limit the sale of substandard milk and other dairy products in the retail.

IDF – DSA acts as member of the Standing Committee: Food labelling and terminology and provide inputs at the SANCIDF meeting, together with the representative of DAFF. DSA participated in rendering technical comments regarding milk and dairy based products. DSA also attended the IDF World Dairy Summit in Vilnius, Lithuania from 16 to 25 September 2015.

SANCU - DSA communicated with the SA National Consumer Union regarding dairy food safety and quality related issues as and when required.

SASDT - DSA as elected member of the management of SASDT Northern division attended all regional meetings and participated in the 2015 SASDT National Symposium as well as presented on the topic "Industry initiative in support of dairy innovation and promoting the compliance with standards".

SAAFoST – DSA as member of SAAFoST 2015 participate in association's activities when applicable. DSA attended the SAAFoST 2015 national congress in Durban during the first week in September 2015.

Tertiary institutions – DSA serves as a member of the Advisory Committee of the Department of Health at the Tshwane University of Technology as well as Nelson Mandela Metropolitan University. The purpose of the advisory committees is to give industry inputs and assist the universities with the development of course material for Environmental Health Practitioners. DSA rendered specific services to the Tshwane University of Technology during November and December 2015.

DEB (Department of Basic education)

DSA liaised with the department regarding the supply of safe milk and other dairy products in terms of the National School Nutrition Programme.

GOAL 7 - LIAISON WITH AUTHORITIES AND LEGISLATION

DSA liaised with the authorities regarding the following legislation and standards:

Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act 54 of 1972)

- Draft Regulations Governing General and Hygiene Requirements for Food Premises, the Transport of Food and Related Matters - R364 of 30 April 2015.
- Regulations relating to milk and dairy products - R1555 of 1997.
- Draft R429 relating to the labelling and advertising of foodstuffs.
- Regulations relating to Foodstuffs for Infants and Young Children (R991/2012)

Agricultural Product Standard Act, 1990 (Act 119 of 1990)

- New regulations relating to dairy products and imitation dairy products R260 of 27 March 2015.
- Regulations regarding the classification, packing and marking of edible ices intended for sale in the Republic of South Africa - R78 of 8 February 2013.
- Draft regulations relating to the import of dairy and imitation dairy products.
- Regulations relating to dairy products and imitation dairy products R260 of 27 March 2015 and dispensations issued in terms of R2581/1987.
- Regulations relating to the export of dairy and imitation dairy products.
- Standards and requirements regarding control of the export of dairy products and the Standard Operating Procedure for inspection of dairy products intended for export in terms of the APS Act of 1990.

Department of Agriculture, Forestry and Fisheries – Directorate animal health

- -Draft Veterinary Procedure Notice VPN/20/2015-1: Standards for the registration of a veterinary approved dairy establishment for export.

Non-compulsory South African National Standards – SABS

- SANS 1694 - Standards relating to the welfare of dairy cattle

- SANS 1678 and 1679 (Pasteurized and sterilized milk)
- SANS 10049:2012 – Edition 4: Food safety management - requirements for prerequisite programmes (PRPs)
- SANS 10330 – Food safety – Requirements for a hazard analysis and critical point (HACCP) system

Compulsory South African National Standards - SABS

- SANS 289:2012 – Edition 1.4 - Labelling requirements for prepackaged products (prepackages) and general requirements for the sale of goods subject to legal metrology control

All relevant information relating to legislative matters is communicated to the Advisory Committee on Dairy Standards and Regulations of Milk SA, for communication and discussion purposes.

GOAL 8 - INFORMATION AND EDUCATION

DSA presented information sessions based on the DSA Code of Practice and related guideline materials to professional EHPs as well as student EHPs on a national level, at the undermentioned tertiary institutions. These information sessions are available for government/ municipal officials, milk producers, processors and distributors that acquire information regarding food safety and quality prerequisites on a national level.

A formal workshop was held on 10 April 2015 with 26 Environmental Health Officers of the Eden District Municipality (26 EHPs attended).

A formal workshop was held on 26 April 2015 with 30 Environmental Health Officers of the Buffalo City Municipality in East London (30 EHP's attended).

On 13 May 2015, the DSA delivered a presentation at the Association for Dietetics Gauteng South Committee regarding integrated chain management of food safety in the dairy industry.

Information sessions at seven tertiary institutions as well as workshops with EHP's in the Western and Eastern Cape were scheduled for the second quarter of 2015:

- 20 May 2015 - University of Johannesburg (48 students attended).
- 26 May 2015 - Mangosuthu University of Technology (35 students attended).
- 27 May 2015 - Durban University of Technology (28 students attended).
- 21 August 2015 – a formal session was held with 38 UP veterinary final year students at Onderstepoort.
- 27 and 28 August 2015 – a formal workshop was held with Environmental Health Officers of the Kenneth Kaunda District Municipality in Klerksdorp with visits to a milk shed and dairy processing facility. (30 EHP's attended).
- 28 July 2015 – Central University of Technology (58 students attended).
- 7 September 2015 and 14 September 2015 - Tshwane University of Technology (76 students attended).
- 14 September 2015 – Cape Town University of Technology (31 students attended).



- 25 September 2015 – Nelson Mandela University of Technology (19 students attended).
- October 2015 – DSA presented on request to University of Pretoria Bsc. 4th year students during October 2015.

Tertiary institutions: DSA serves as a member of the Advisory Committee of the Department of Health at the Tshwane University of Technology as well as Nelson Mandela Metropolitan University.

GOAL 9 - MEDIA COMMUNICATION

DSA has signed contractual agreements with *Veeplaas* and *Agri Connect*. Twelve articles were published in the *Veeplaas / Farmlink* and *Dairy Mail* regarding relevant food safety and product compositional issues.

One article was published in the *Farmers Weekly* in February 2015 and one in the *Agri Kultuur Magazine*. Two articles were published in *Milk Essay* of Milk SA.

Five radio recordings were broadcast on a national radio station, as well as one live television broadcast.

GOAL 10 - DEVELOPMENT OF GUIDELINE DOCUMENTATION

The new DSA Code of Practice for the Secondary Industry was completed at the end of March 2015 and launched at the SASDT national symposium in the Eastern Cape on 15 April 2015.

NON-STATUTORY FUNDED PROJECTS OF THE DAIRY STANDARD AGENCY (Goals 11 to 17):

GOAL 11 - PRODUCT MONITORING ON BEHALF OF THE CLIENT

Monitoring activities of company branded fresh milk and other dairy products on behalf of a major retail company were successfully conducted during 2015. The service level agreement provides for the sampling of house branded milk and other dairy products. The renewal of the service level agreement for 2015 has been finalised.

GOAL 12 - FARM FOOD SAFETY AUDITS ON CONTRACTUAL BASIS

A total of one hundred and ninety eight farm audits in terms of a service level agreement between the DSA and the client were successfully completed. The service level agreement for 2016 has been finalised and will come into effect in March 2016.

GOAL 13 - PROCESSING FACILITY FOOD SAFETY AUDITS ON CONTRACTUAL BASIS

A total of two processing facilities were audited on a contractual basis with the client.

GOAL 14 - DSA FOOD SAFETY AUDITS ON REQUEST

Nine dairy processing facilities were audited.

GOAL 15 - FOOD SAFETY CONSULTATION

One food safety consultation and one food safety management documentation development at secondary facilities were completed.

GOAL 16 - DSA DAIRY QUALITY CLUB

The DSA Dairy Quality Club is a forum of suppliers which actively supports the primary goal of the DSA. All income generated from the Dairy Quality Club was used to assist with the implementation and maintenance of non-statutory activities such as development of the Code of Practice for the Secondary Industry and to support media communication and advertorials.

GOAL 17 - WORKSHOPS

Presentations given at user-pay DSA workshops are based on the DSA Code of Practice, Laboratory guidelines, Food safety documentation systems and the DSA labelling guideline for dairy products. Workshops are presented on request to members of the primary and secondary industry as well as government officials and other industry stakeholders. Two successful labelling workshops were held in the Western Cape and Gauteng.



Dr Koos Coetzee
Project Manager

7.13 Project title: Industry Information (Project leader: MPO)

i. **Responsible institution:** Milk Producers' Organization.

ii. **Purpose of the project:**

The main goal of the industry information project is to ensure that role players in the dairy industry receive timely, accurate and objective information on important trends in the local and international dairy industry. During 2015 the project was able to fulfill this goal in various ways.

iii. **Summary of project performance:**

The monthly publication *Dairy Digits* reported on milk intake, imports and exports and price information. Monthly milk intake information was collected, validated and published in *The Dairy Mail*. Milk intake during 2015 followed the normal seasonal pattern but at a higher level than in 2014. Currently total milk intake during 2015 is estimated at 3 146 000 tonnes, 5,5% more than in 2014.

The methodology for estimating milk production for the latest and one previous month was finalized by the Industry Information Workgroup consisting of Dr Koos Coetzee (Project Manager), Mr Nico Fouché (Chairman), Mr Alwyn Kraamwinkel, Mr De Wet Jonker and Mr Bertus van Heerden.





During the January to October 2015, imports increased by 84% while exports decreased by 10%. On a milk equivalent basis, imports exceeded exports during that period by 100 000 tonnes.

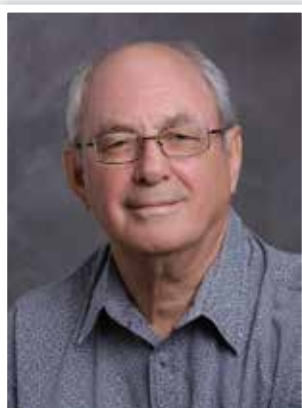
In *Lacto Data*, published twice a year in May and November, an overview of the status of the international and local dairy industry was given. Cows' milk production represents 83% of total milk production. It grew by 3,3% to 663 million tonnes in 2014, faster than the 0,9% growth experienced during 2013. Milk production is estimated to grow by 1,5% - 2% in 2015. Four hundred and twenty four million tonnes of cows' milk (64,0% of total production) was delivered to dairies for further processing. The EU processes the largest quantity of milk, followed by the United States, China, Brazil, New Zealand and Russia, with India not ranked. Milk delivered increased by 3,3% from 2013 to 2014.

In 2014 the turnover of most major dairy companies increased as global dairy product prices increased. Exceptions were the Japanese companies that were affected by the depreciation of the Japanese Yen. European companies like Nestlé and Danone also suffered a decrease in

turnover, mainly caused by weak European sales. Dairy Farmers of America reported a 40% increase in turnover. On average per capita consumption of dairy products was 110,7 kg in milk equivalent in 2014, an increase of 1,7% on 2013. On average, each consumer now consumes 8,7 kg more than in 2005.

In the primary sector the trend towards fewer larger producing units continued. This trend was also reflected in the secondary industry. The number of milk producers decreased to 1 760 by the end of 2015.

The 2015 World Dairy Summit in Vilnius, Lithuania was attended. The Lithuanian dairy industry consists of 57 500 farmers keeping cows. The dairy herd consists of 314 300 cows, or on average 5,5 cows per farm. Herd size doubled in the last decade. In 2014, 1 435 500 tonnes of milk were purchased from farmers, about half the size of the South African dairy industry. Milk production increased by 7% from 2013 to 2014. Lithuania exports dairy products to 78 countries with the EU accounting for more than 60% of total exports. Cheese exports account for 45% of total exports by value.



Edu Roux
Project Manager

7.14 Project title: Participation in the activities of the International Dairy Federation (IDF) through the SA National Committee of the IDF

- i. **Responsible Institution:** SA National Committee of the International Dairy Federation (SANCIDF).
- ii. **Purpose of the project:**
To promote and enhance the production, trade, consumption, and image of milk and milk products in South Africa by contributing scientific, technical and economic information to IDF and after dissemination and compilation by the IDF Standing Committees, provide useable information to the local industry.
- iii. **Summary of project performance:**
With the retirement of Mr. Bertus de Jongh, Ms Christine Leighton was appointed primarius member of the Standing Committee on Marketing and Mr Alwyn Kraamwinkel was appointed secundus member of the same SC.

SANCIDF received seven requests about New Work Items of which five were replied to in 2015 and the rest will be replied to in 2016. Three questionnaires were also received, which were all replied to in 2015.

Four Bulletins and four Standards were received during the year and were distributed to industry representatives. They were:

- Bulletin 479/ 2015 - A common carbon footprint approach for the dairy sector
- The IDF guide to standard life cycle assessment methodology.
- Bulletin 480/ 2015 - The contribution of school milk programmes to the nutrition of children worldwide.
- Bulletin 481/ 2015 - The World Dairy Situation 2015.
- Bulletin 478/ 2015 - Interlaboratory collaborative study on a flow cytometry method for lactic acid bacteria quantification in starter cultures, probiotics and fermented milk products according to ISO 19344/IDF 232.
- IDF-231-ISO-16958-2015E - Determination of fatty acids in milk, milk products, infant formula and adult nutritionals.
- IDF-232-ISO-19344-2015E - Quantification of lactic acid bacteria by flow cytometry in starter cultures, probiotics and fermented products.
- IDF-234-ISO-20647-2015E - Determination of total iodine in infant formula and adult nutritionals.
- IDF-235-ISO-20649-2015E - Determination of chromium, selenium and molybdenum in infant formulae and adult nutritionals.

Particulars about the above documents were or will be (in 2016) published in The Dairy Mail and Milk Essay.

BOARD OF DIRECTORS' REPORT

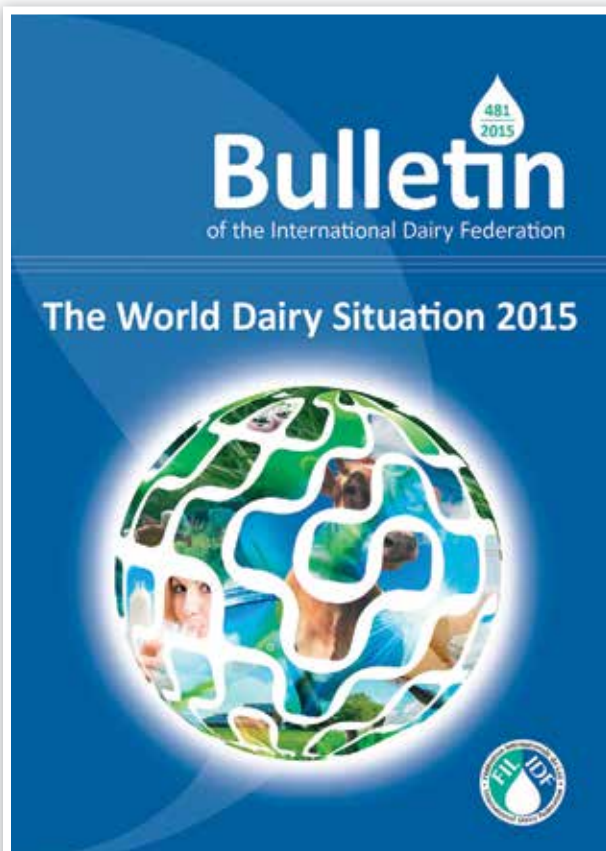
IDF also sent four Newsbriefs, eleven Newsletters and five Press Releases during this year. They were all sent to representatives of processors and milk producers as well as to all SA representatives on Standing Committees. All the Bulletins, Standards, Newsbriefs and Press Releases were also loaded on to the Milk SA website.

SANCIDF brought altogether ten matters to the attention of IDF who returned acceptable replies to all points. Nine newsletters about WDS 2015 were received and distributed to members and associate members of SANCIDF and to Standing Committee members.

Two articles were also written for The Dairy Mail to promote WDS 2015 amongst dairy industry role players. Feedback on WDS 2015 by five delegates financed by this project and by SANCIDF's

WDS2012 Trust Fund was received in 2015 and the other three in 2016.

The SANCIDF Executive Committee is formulating procedures to ensure timeous reporting on WDS's in future. Seven South African representatives on IDF Standing Committees reported on their work at the AGM of SANCIDF in March 2015. All these reports are available from the SANCIDF office.



IDF Bulletin

Audit and Risk Committee Annual Report



Danie Du Plessis
Chairman of the Audit
and Risk Committee

For the year ended 31 December 2015
Presented to the members of Milk
South Africa on 2 June 2016

1. Composition

1.1 The Audit and Risk Committee is composed as follows:

- One person nominated by the MPO.
- One person nominated by SAMPRO.
- One independent person with expertise, who shall be the Chairperson.

1.2 During 2015 the committee consisted of the following persons:

WP Lubbe CA (SA)	Independent chairman	Whole year
HJ Du Plessis	SAMPRO	Whole year
J Strydom	MPO	Whole year

1.3 The alternate members for the latter two members were the following:

O Gush	SAMPRO	Whole year
W Hartman	MPO	Whole year

1.4 DH du Plessis CA (SA) was appointed as Independent Chairman on 1 February 2016.

2. Terms of office

- 2.1 A committee member is appointed for a term of three years.
- 2.2 After completion of a three-year term, the committee member is eligible for re-appointment.
- 2.3 The three-year terms of the members nominated by the MPO and SAMPRO overlap with one year.
- 2.4 When a committee member resigns or moves out of the position for any other reason before the expiry of the fixed three-year term of office, his/her replacing member is appointed for the remaining period of the three-year term of office.
- 2.5 The maximum period for which a committee member may serve is three terms.

AUDIT AND RISK COMMITTEE REPORT



2.6 During 2015 the positions were occupied as follows:

Position and committee member	Fixed three years for the term in respect of the member's position.	Period served by the committee member during the 2015 financial year as well as an indication of the term for which the member served.
Independent Chairman (WP Lubbe)	1 July 2013 to 30 June 2016	1 January to 31 December 2015 (Third term). Resigned on 31 December 2015 due to health reasons.
MPO (J Strydom)	1 July 2014 to 30 June 2017	1 January to 31 December 2015 (First term).
SAMPRO (HJ du Plessis)	1 July 2015 to 30 June 2018	1 January to 31 December 2015 (Second term)

Danie du Plessis
(Chairman: Audit and
Risk Committee),
Johan Strydom
(Committee member),
Nico Fouché (CEO: Milk
SA),
Wicus van der Merwe
(Internal Auditor) and
Hendrik du Plessis
(Committee member).



3. Meetings

- 3.1 Meetings of the Audit and Risk Committee were held on the following dates during 2015:
 - 20 February 2015
 - 3 September 2015
 - 6 November 2015
- 3.2 All the members attended the meetings in person or via video, except for the meeting held on 3 September 2015 that was attended by O Gush as alternate to HJ du Plessis. The CEO also attended all the meetings.
- 3.3 The internal auditor, Mr Wicus van der Merwe from Medupe Risk Advisory Services (Pty) Ltd, attended all the meetings.

4. Responsibility of the Audit and Risk Committee

The Audit and Risk Committee reports that:

- 4.1 More appropriate terms of reference were adopted as charter;
- 4.2 The affairs of the committee were regulated in compliance with the charter; and
- 4.3 All its responsibilities were discharged accordingly.

5. Activities

The following aspects were addressed by the committee:

- 5.1 Administrative legislation
- 5.2 Internal Audit Planning for 2015
- 5.3 Perusal of monthly internal audit status reports

- 5.4 Internal Audit Reports 01/2015, 02/2015, 03/2015
- 5.5 Monthly management statements
- 5.6 Budget for 2015
- 5.7 Income tax compliance
- 5.8 Risk management system for Milk SA
- 5.9 Cash flow forecasts
- 5.10 Risk matters
- 5.11 Debtor day management
- 5.12 The Audit and Risk Committee's annual report for 2014
- 5.13 2014 Annual Financial Statements
- 5.14 Commercialization Project and associated risk
- 5.15 Policy for de-registrations and writing off of bad debts
- 5.16 Deregistrations and writing off of bad debts
- 5.17 Budget 2014 to 2017
- 5.18 Planning for 2016 re Inspection services
- 5.19 Planning for 2016 re Internal audits

The finding of the Committee is that the independence of neither of the two Audit firms (Fourie & Botha and the Auditor-General) is under suspicion.

6. Tasks undertaken by the chairman

- 6.1 Discussions with the CEO on 11 May 2015, 14 July 2015, 22 November 2015 and 11 December 2015
- 6.2 Perused the minutes of the General meetings
- 6.3 Perused monthly financial statements and gave comment
- 6.4 Lodged the 2015 annual return with the CIPC
- 6.5 Compiled Audit and Risk Committee report for 2014
- 6.6 Discussed 2014 draft statements with the CEO and PwC
- 6.7 Compiled draft procedures for finalising the Annual financial statements

- 6.8 Perused monthly internal auditor's reports
- 6.9 Attended the Exco's meeting of 20 April 2015
- 6.10 Perused the 2014 financial statements
- 6.11 Obtained references i.r.o. a Resolution Register
- 6.12 Consultation i.r.o. the accounting treatment of Software Annual Update
- 6.13 Consultations with PwC on 21 April 2015, 29 May 2015, 15 September 2015 and 27 October 2015
- 6.14 Discussions and meetings i.r.o. internal audit report 4/2014 on 20 January 2015, 26 February 2015 and 2 April 2015
- 6.15 Calculated cash position from time to time
- 6.16 Perused Board minutes and commented
- 6.17 Attended the Board meetings of 20 March 2015, 13 May 2015, 30 September 2015 and 20 November 2015
- 6.18 Perused abridged 2014 statements
- 6.19 Perused internal audit report 01/2015
- 6.20 Attended Annual General Meeting of 14 May 2015
- 6.21 Consultation with the internal auditor
- 6.22 Attended the Members' meeting 26 November 2015
- 6.23 Perused and commented draft 2016 budget

7. **Role of the Audit and Risk Committee**

The primary role of the Committee is to assist the Board in meeting its obligations in terms of:

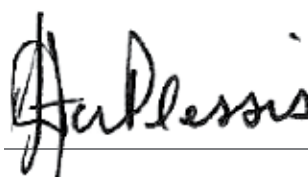
- 7.1 **Safeguarding the assets of the company**
During 2006, the Committee advised that the company take out insurance.
- 7.2 **Keeping sufficient accounting records**
The firm PricewaterhouseCoopers Incorporated was contracted to perform this function.

- 7.3 Developing and maintaining an effective internal control system
 - i. The document "Corporate Governance in Practice – 2009.05.25" which was distributed to members.
 - ii. The control system was designed to ensure that assets are safeguarded cost effectively and that liabilities and working capital are efficiently managed.
 - iii. The Audit and Risk Committee is of the opinion that the internal controls are appropriate and cost effective.

8. **Evaluation of Annual Financial Statements**

The Audit and Risk Committee has reviewed and discussed the Annual Financial Statements to be included in the annual report, with the Auditor-General.

Signed in Pretoria on 3 May 2016 on behalf of the Audit and Risk Committee.



DH du Plessis CA(SA)

Annual Financial Statements



for the year ended
31 December 2015

Milk South Africa NPC

(Registration number 2002/032020/08)

General Information

Country of incorporation and domicile	Republic of South Africa
Nature of business and principal activities	Milk SA is a non-profit company representing the organized dairy industry of South Africa in terms of the industry challenges which concern the industry as a whole. Milk SA was appointed by the Minister of Agriculture, Forestry and Fisheries as Administrator of Regulations which were published i.t.o. the Marketing of Agricultural Products Act, no 47 of 1996 ("MAP Act").
Current directors	<ul style="list-style-type: none"> • PH Adams • CS Blignaut (Chairman) • FA Grobler • AP Kraamwinkel • GF Kuyler • NJ Lok • MJ Loubser (Vice-Chairman) • AW Prinsloo • MG Rathogwa • CJ van Dijk • J van Heerden
Alternate directors	AR Gutsche
Auditors	Auditor General (Auditors i.t.o the Public Finance Management Act) Fourie & Botha Registered Auditors (Auditors i.t.o the Companies Act)
Secretary	N Fouché
Company registration number	2002/032020/08
Level of assurance	These annual financial statements have been audited in compliance with International Standards on Auditing
Preparer	The annual financial statements were independently compiled by: <ul style="list-style-type: none"> • L Claassens CA (SA) • PricewaterhouseCoopers Inc ("PwC")



Index

The reports and statements set out below comprise the annual financial statements presented to the members:

- Directors' Responsibilities and Approval
- Independent Auditor's Report
- Directors' Report
- Statement of Financial Position
- Statement of Comprehensive Income
- Statement of Changes in Equity
- Statement of Cash Flows
- Accounting Policies
- Notes to the Annual Financial Statements

The following supplementary information does not form part of the annual financial statements and is unaudited:

- Detailed Income Statement
- Research and Development Reserve Fund - Analysis of the Movement in Reserve Fund i.t.o. Clause 15(5)(a) of the Marketing of Agricultural Products Act
- Promoting Sustainable Commercialization of Existing Black Dairy Enterprises - Analysis of Movement in Reserve Fund - Surplus funds i.t.o. Clause 15(5)(a) of the Marketing of Agricultural Products Act
- Promoting Sustainable Commercialization of Existing Black Dairy Farmers - Analysis of Movement in Commercialization Fund (Jobs Fund and Milk SA Contract)

Directors' Responsibilities and Approval

The directors are required by the Companies Act 71 of 2008, to maintain adequate accounting records and are responsible for the content and integrity of the annual financial statements and related financial information included in this report. It is their responsibility to ensure that the annual financial statements fairly present the state of affairs of the company as at the end of the financial year and the results of its operations and cash flows for the year then ended, in conformity with the International Financial Reporting Standard for Small and Medium- sized Entities. The external auditors are engaged to express an independent opinion on the annual financial statements.

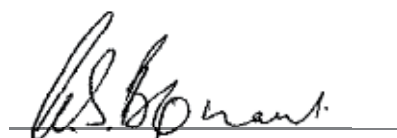
The annual financial statements are prepared in accordance with the International Financial Reporting Standard for Small and Medium-sized Entities and are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

The directors acknowledge that they are ultimately responsible for the system of internal financial control established by the company and place considerable importance on maintaining a strong control environment. To enable the directors to meet these responsibilities, the board of directors sets standards for internal control aimed at reducing the risk of error or loss in a cost effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the company and all employees are required to maintain the highest ethical standards in ensuring the company's business is conducted in a manner that in all reasonable circumstances is above reproach. The focus of risk management in the company is on identifying, assessing, managing and monitoring all known forms of risk across the company. While operating risk cannot be fully eliminated, the company endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined procedures and constraints.

The directors are of the opinion, based on the information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the annual financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatement or loss.

The directors have reviewed the company's cash flow forecast for the year to 31 December 2016 and, in the light of this review and the current financial position, they are satisfied that the company has or has access to adequate resources to continue in operational existence for the foreseeable future.

The annual financial statements set out on pages 5 to 22 which have been prepared on the going concern basis, were approved by the board of directors on 9 September 2016 and were signed on its behalf by:



Director



Director



Chief Executive Officer

2de Vloer
Kings Highway 476
Lynnwood, Pretoria 0081
Posbus 74960 Lynnwoodrif 0040
Telefoon (012) 361 1172/3, 348 8184
Faks (012) 348 9162
E-Pos: fourie.botha@iburst.co.za

2nd Floor
476 Kings Highway
Lynnwood, Pretoria 0081
PO Box 74960 Lynnwood Ridge 0040
Telephone (012) 361 1172/3, 348 8184
Fax (012) 348 9162
E-Mail: fourie.botha@iburst.co.za



Fourie + Botha

Geregistreerde Ouditeure
Registered Auditors
Geoktrooleerde Rekenmeesters(SA)
Chartered Accountants (SA)

9 May 2016

Independent Auditor's Report to the members of Milk SA NPC

We have audited the annual financial statements of Milk SA NPC, which comprise the directors' report, the Statement of Financial Position as at 31 December 2015, the Statement of Comprehensive Income, the Statement of Changes in Equity, the Statement of Cash Flows for the year then ended, a summary of significant accounting policies and other explanatory notes, as set out on pages 77 to 100.

Directors' Responsibility for the Financial Statements

The company's directors are responsible for the preparation and fair presentation of these financial statements in accordance with the International Financial Reporting Standard for Small- and Medium-Sized Entities. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the directors, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



Basis for Qualified Opinion

We were unable to obtain sufficient audit evidence or perform satisfactory auditing procedures to obtain reasonable assurance as to the completeness of the accounting records relating to levy income collectable.

Qualified Opinion

Except for the effects of any adjustments that might have been necessary had the levy income referred to in the Basis for Qualified Opinion paragraph been verified, in our opinion the financial statements present fairly, in all material respects the financial position of Milk South Africa NPC as at 31 December 2015 and its cash flows for the year then ended, in accordance with the International Financial Reporting Standard for Small- and Medium-Sized Entities and in the manner required by the Public Finance Management Act, 1999 (Act No 1 of 1999) (PFMA), Auditor-General audit circular I of 2007, the Companies Act of South Africa and the Marketing of Agricultural products Act, 1996 (act No 47 of 1996) as amended.

Other reports required by the Companies Act

As part of our audit of the annual financial statements for the year ended 31 December 2015, we have read the Directors' Report for the purpose of identifying whether there are material inconsistencies between these reports and the audited annual financial statements. This report is the responsibility of the respective preparer. Based on reading this report we have not identified material inconsistencies between this report and the audited annual financial statements. However, we have not audited this report and accordingly do not express an opinion on this report.

FOURIE + BOTHA

Registered Auditors

Praktyk Nr./ Practice No. 930229



Vennote / Partners

EHK Botha, WM Fourie, MA Eastman

Directors' Report

The directors submit their report for the year ended 31 December 2015.

1. Review of activities

Main business and operations

The company collects levies from role-players in terms of Regulations 1220 of 23 December 2005, 57 of 30 January 2009 and 1218 of 20 December 2013 in order to finance projects relating to research, the collection and distribution of industry information, the promotion of dairy quality, the education of consumers and transformation.

The operating results and state of affairs of the company are fully set out in the attached annual financial statements and do not in our opinion require any further comment.

Net surplus of the company was R 4,740,968 (2014: surplus R 3,912,621), after taxation of R - (2014: R -).

2. Going concern

The annual financial statements have been prepared on the basis of accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

3. Events after the reporting period

The directors are not aware of any matters or circumstances arising since the end of the financial year, not otherwise dealt with in the financial statements that would affect the operations of the company or the results of those operations significantly.

4. Directors

The directors of the company during the year and to the date of this report are as follows:

Name	Changes	Name	Changes
PH Adams	Appointed 22 January 2015	MJ Loubser (Vice-Chairman)	
CS Blignaut (Chairman)		AW Prinsloo	
AJB De Jongh	Resigned 31 March 2015	MG Rathogwa	
FA Grobler		TK Turner (Vice-Chairman)	Resigned 15 September 2015
AP Kraamwinkel		CJ van Dijk	Appointed 14 May 2015
GF Kuyler	Appointed 30 September 2015	J van Heerden	
NJ Lok			

The alternate directors of the company are as follows:

AR Gutsche		DPA Schutte	Resigned 15 September 2015
------------	--	-------------	----------------------------

5. Liquidity and solvency

The directors have performed the required liquidity and solvency tests required by the Companies Act 71 of 2008.

6. Auditors

The company's auditors are Fourie & Botha (Registered Auditors) i.t.o. the Companies Act and the Auditor-General i.t.o. the Public Finance Management Act.

Statement of Financial Position

	Notes	2015 R	2014 R
Assets			
Current Assets			
Trade and other receivables	3	1,607,105	1,760,124
Cash and cash equivalents	4	25,417,131	20,107,272
		27,024,236	21,867,396
Non-Current Assets			
Fixed assets	5	164,076	261,154
Total Assets		27,188,312	22,128,550
Equity and Liabilities			
Liabilities			
Current Liabilities			
Trade and other payables	6	1,159,235	840,441
Equity			
Reserves		15,429,483	15,093,806
Retained income		10,599,594	6,194,303
		26,029,077	21,288,109
Total Equity and Liabilities		27,188,312	22,128,550

Statement of Comprehensive Income

	Notes	2015 R	2014 R
Revenue	7	46,585,458	40,918,518
Projects/Statutory functions	8	(38,476,108)	(34,347,244)
Gross surplus		8,109,350	6,571,274
Grant received - National Treasury	9	1,033,325	1,419,000
Operating expenses	12	(5,334,809)	(4,905,428)
Operating surplus		3,807,866	3,084,846
Finance income	10	933,128	827,775
Finance costs	11	(26)	-
Surplus for the year		4,740,968	3,912,621
Other comprehensive income		-	-
Total comprehensive surplus for the year		4,740,968	3,912,621

Statement of Changes in Equity

	Research and Development: Surplus funds to clause 15(5) (a) of the MAP Act (2006 - 2009) R	Commercialization: Joint Milk SA and Jobs Fund (2006 - 2009) R	Commercialization: Surplus funds to clause 15(5)(a) of the MAP Act (2006 - 2013) R	Total reserves R	Retained income: Levy Funds (2014 - 2017) R	Total equity R
Balance at 01 January 2014	-	3,528,575	13,846,913	17,375,488	-	17,375,488
Changes in equity						
Total comprehensive surplus for the year	-	-	-	-	3,912,621	3,912,621
Transfer between reserves	2,292,930	(115,930)	(2,292,930)	(115,930)	115,930	-
Transfer unutilised / (utilisation of) funds	129,886	(2,735,980)	440,342	(2,165,752)	2,165,752	-
Total changes	2,422,816	(2,851,910)	(1,852,588)	(2,281,682)	6,194,303	3,912,621
Balance at 01 January 2015	2,422,816	676,665	11,994,325	15,093,806	6,194,303	21,288,109
Changes in equity						
Total comprehensive surplus for the year	-	-	-	-	4,740,968	4,740,968
Transfers between reserves	-	1,999,201	(2,233,325)	(234,124)	234,124	-
Transfer unutilised / (utilisation of) funds	67,308	(44,390)	546,883	569,801	(569,801)	-
Total changes	67,308	1,954,811	(1,686,442)	335,677	4,405,291	4,740,968
Balance at 31 December 2015	2,490,124	2,631,476	10,307,883	15,429,483	10,599,594	26,029,077

Statement of Cash Flows

	Notes	2015 R	2014 R
Cash flows from operating activities			
Cash receipts from industry participants and grantors		46,974,903	42,034,407
Cash paid to suppliers and employees		(42,590,515)	(37,897,471)
Cash generated from operations	13	4,384,388	4,136,936
Finance income	10	933,128	827,775
Finance costs	11	(26)	-
Net cash from operating activities		5,317,490	4,964,711
Cash flows from investing activities			
Additions to fixed assets	5	(7,631)	(71,316)
Net increase in cash, cash equivalents and bank overdrafts for the year		5,309,859	4,893,395
Cash, cash equivalents and bank overdrafts at the beginning of the year		20,107,272	15,213,877
Cash, cash equivalents and bank overdrafts at end of the year	4	25,417,131	20,107,272

Accounting Policies

1. Presentation of annual financial statements

The annual financial statements have been prepared in accordance with the International Financial Reporting Standard for Small and Medium-sized Entities and the Companies Act of South Africa. The annual financial statements have been prepared on the historical cost basis, except for certain financial instruments, and incorporate the principal accounting policies set out below.

These accounting policies are consistent with the previous period.

1.1 Significant judgements and sources of estimation uncertainty

In the application of the company's accounting policies and preparing the annual financial statements, management is required to make judgements, estimates and assumptions about income, expenses and the carrying amounts of assets and liabilities that are not readily apparent from other sources and that affect the amounts represented in the annual financial statements and related disclosures. The estimates and associated assumptions are based on the historical experience and other factors that are considered to be relevant. Due to the inherent uncertainty in making estimates, actual results reported in future periods may differ from those estimates, judgements and assumptions.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

A change in accounting estimates is defined as an adjustment to the carrying amount of an asset or a liability that results from the assessment of the present status of, and expected future benefits and obligations associated with assets and liabilities. Changes in accounting estimates result from new information or new developments and, accordingly, are not corrections of errors.

Estimates, judgements and assumptions made, relate predominantly to impairment provisions for financial instruments and determining the useful lives, residual values and depreciation methods for fixed assets. Other judgements made relate to classifying financial instruments into their relevant categories and in determination of its fair value for measurement and disclosure purposes.

The following are the significant judgements and key estimation uncertainties that management have made in the process of applying the company's accounting policies:

Impairment of fixed assets

The company assesses its fixed assets stated at cost less accumulated depreciation for impairment at each reporting period date. In determining whether an impairment loss should be recorded in the statement of profit or loss and other comprehensive income, the company makes judgements as to whether there is observable data indicating a measurable decrease in the estimated future cash flows from a fixed asset.

Depreciation

The company assesses the useful lives, residual values and depreciation methods of fixed assets at each reporting period date for indicators present that suggest changes from previous estimates.

Impairment of levy debtors

The company assesses its trade and other receivables, more in particular its levy debtors, for impairment at each reporting period date. Significant financial difficulties of levy debtors, probability that a levy debtor will enter bankruptcy or financial reorganisation, and default in payments are all considered to be indicators that the trade receivable is impaired.

Subsequent Measurement

Held-to-maturity investments are subsequently measured at amortised cost, using the effective interest method, less accumulated impairment losses.

Financial liabilities at amortised cost are subsequently measured at amortised cost, using the effective interest method.

1.2 Fixed assets

Fixed assets are stated at cost less accumulated depreciation and accumulated impairment losses. Depreciation on fixed assets are provided for on the straight-line basis in order to write off the cost over their expected useful lives.

The expected useful lives are as follows:

Item	Average useful life
Furniture and fixtures	6 years
IT equipment	3 years
Computer software	2 years

Impairment of financial assets

At each balance sheet date the company assesses all financial assets to determine whether there is objective evidence that a financial asset or group of financial assets has been impaired.

For amounts due to the company, significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy or default of payments are all considered indicators of impairment.

Impairment losses are recognised in the statement of comprehensive income.

Impairment losses are reversed when an increase in the financial asset's recoverable amount can be related objectively to an event occurring after the impairment was recognised, subject to the restriction that the carrying amount of the financial asset at the date that the impairment is reversed shall not exceed what the carrying amount would have been had the impairment not been recognised.

1.3 Financial instruments

Classification

The company classifies financial assets and financial liabilities into the following categories:

- Held-to-maturity investment
- Receivables
- Financial liabilities measured at amortised cost:

Classification depends on the purpose for which the financial instruments were obtained / incurred and takes place at initial recognition. Financial instruments are re-assessed on an annual basis.

Trade and other receivables

Trade receivables are measured at initial recognition at fair value. Appropriate allowances for estimated irrecoverable amounts are recognised in the statement of comprehensive income when there

is objective evidence that the asset is impaired. Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy or financial reorganisation, and default or delinquency in payments are considered indicators that the trade receivable is impaired. The allowance recognised is measured as the difference between the assets' carrying amount and the present value of estimated future cash flows discounted at the effective interest rate computed at initial recognition.

The carrying amount of the assets is reduced through the use of an allowance account (provision for doubtful debts), and the amount of the loss is recognised in the statement of comprehensive income within operating expenses. When a trade receivable is uncollectable, it is written off against the allowance account for trade receivables. Subsequent recoveries of amounts previously written off are credited against the operating expenses in the statement of comprehensive income.

Trade and other receivables are classified as receivables.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, demand deposits and other short-term highly liquid investments that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value. These are initially recorded at fair value and subsequently recognised at amortised cost using the effective interest method.

Trade and other payables

Trade payables are recognised initially at the transaction price and subsequently measured at amortised cost using the effective interest method.

1.4 Leases

A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership.

A lease is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership.

Operating leases - lessee

Operating lease payments are recognised as an expense on a straight-line basis over the lease term. The difference between the amounts recognised as an expense and the contractual payments are recognised as an operating lease asset. This liability is not discounted.

Any contingent rents are expensed in the period they are incurred.

1.5 Impairment of non-financial assets

The company assesses at each reporting period date whether there is any indication that an asset may be impaired.

If any such indication exists, the company estimates the recoverable amount of the asset.

If there is any indication that an asset may be impaired, the recoverable amount is estimated for the individual asset. If it is not possible to estimate the recoverable amount of the individual asset, the recoverable amount of the cash-generating unit to which the asset belongs is determined.

If an impairment loss subsequently reverses, the carrying amount of the asset (or group of related assets) is increased to the revised estimate of its recoverable amount (selling price less costs to complete and sell, in the case of inventories), but not in excess of the amount that would have been determined had no impairment loss been recognised for the asset (or group of assets) in prior years. A reversal of impairment is recognised immediately in profit or loss.

1.6 Employee benefits

Short-term employee benefits

The cost of short-term employee benefits, (those payable within 12 months after the service is rendered, such as paid vacation leave and sick leave, bonuses, and non-monetary benefits such as medical care), are recognised in the period in which the service is rendered and are not discounted.

1.7 Revenue

Revenue comprises of levy income payable by role players in terms of the applicable regulations. Revenue is shown net of valued-added tax.

Levy income is recognised in the period in which the return data is captured on the Milk SA database.

Interest is recognised in the statement of comprehensive income, using the effective interest rate method.

Notes to the Annual Financial Statements

2. Risk Management

The assumption of risk by Milk SA is an integral part of good corporate governance applied by the Board of Directors ("Board") to achieve company and industry objectives. The Board is committed to identifying, assessing and managing these risks.

Corporate Governance, including risk management, is an important element of the Terms of Reference of both the Audit & Risk Committee and the Executive Committee and the Board receives regular reports from these bodies on matters considered by them.

Internal audits are carried out by an external risk advisory firm which reports to the CEO and the Audit & Risk Committee. All Milk SA's disciplines and projects are subject to internal audits on a rotational basis, reports of which are considered by the Board. The nature and scope of the work performed by the internal auditor is determined by the Audit & Risk Committee in conjunction with the CEO and internal auditor.

An inspector, appointed by the Minister of Agriculture, Forestry and Fisheries in terms of the MAP Act, audits compliance by levy-paying industry role-players with the compulsory statutory measures that are administrated by Milk SA. The nature and scope of the work performed by the inspector is determined by the Audit & Risk Committee in conjunction with the CEO and inspector, subject to a Board-approved policy.

The CEO of Milk SA attended a risk management course and compiled a risk management plan which is due for finalization in 2016.

Risk forms an integral part of Milk SA's operations and is covered in all planning, agreements and contracts.

2.1 Integrity risk

Integrity Risk relates to the incidence of internal/external theft, dishonest, fraudulent and unethical behaviour, corrupt practices and corporate misconduct. This has the capacity to impact the current and future earnings of an organisation, as well as adversely affect its reputation and ultimately destroy the company.

Collective issues of strategic importance exist in the South African dairy industry which cannot be addressed through competition in the market; should be addressed in the interests of the South African dairy industry, the consumer, and economic development; and which can, in terms of the Competition Act, be addressed by collective action by the members of the dairy industry. The MAP Act, through the statutory measures, allows Milk SA to implement, administrate and enforce the statutory measures and its objectives and thereby facilitate the aforementioned endeavours of Milk SA.

The statutory measures are administrated by Milk SA strictly in accordance with the relevant requirements including the Competition Act, and independently from the commercial interest of different parties in the dairy industry. Milk SA established appropriate organisational structures, processes and actions to deal with the collective issues.

2.1.1 Competitive behaviour risk

Care is exercised by the Office and the Board of Milk SA to ensure that the agendas, meeting proceedings and general conduct in the company facilitate and promote good governance in respect of independent, objective and non-discriminatory behaviour. Agendas provide for an item "Competition Law Compliance" with the purpose to allow any member of a meeting at any stage of such a meeting to voice and record his / her concern in respect of any aspect that

he / she regards to be in contravention with the Competition Act.

Policies and procedures are in place at Milk SA which cover any possible risk of competitive advantage that any

industry player or group of players may gain over industry competitors, such as in terms of the collection and publishing of industry information and developing of marketing concepts by the consumer education project of Milk SA.

2.1.2 Risk of conflicting interest

Furthermore, the issue of “conflict of interest” features prominently on the Milk SA agendas, whereby it is expected of meeting participants to refrain from pursuing own agendas in competition with or to the detriment of Milk SA and / or its operations, and to declare conflicting interests. All the directors of Milk SA have signed a declaration in this regard.

2.1.3 Fraud risk

The risk of fraudulent activities is minimized by i) policies and procedures, ii) the separation of duties in the financial chain of activities, iii) responsibilities of the relevant structures within Milk SA and iv) internal audits. Detailed policies and procedures are observed and constantly reviewed for Milk SA's responsibilities in terms of the statutory measures. Milk SA employs external accountants, namely PwC and an external risk advisory company, Medupe Risk Advisory Services (Pty) Ltd as internal auditor. The Executive Committee, Audit & Risk Committee, Human Resources Committee and Board have clear responsibilities that contribute to the mitigation of fraud risk.

2.2 Financial, Business and Market risk

Financial risk refers to the chance that a business' cash flows are not enough to pay creditors and fulfill other financial responsibilities. Business risk refers to the chance that a business' cash flows are not enough to cover its operating expenses. Market risk is the possibility for an investor to experience losses due to factors that affect the overall performance of the company .

2.2.1 Liquidity risk

Milk SA manages liquidity risk on the basis of expected maturity dates, through an ongoing review of future commitments and credit facilities. Cash flow forecasts are prepared by the Independent Chairman of the Audit & Risk Committee on a quarterly basis and monthly financial management statements are prepared by PwC. These are monitored continuously by the Audit & Risk Committee, Executive Committee, the CEO, the Internal Auditor and quarterly by the Board. Financial assets are managed in such a way that they are readily available to meet liquidity needs.

Milk SA's financial liabilities are limited to its contractual obligations for projects, the administration of Milk SA and refunds to levy-paying role-players due to bona fide errors in the monthly statutory return calculations subject to verification by the Inspector.

2.2.2 Interest rate risk

Surplus cash is invested with reputable banking institutions as approved by the Board, in instruments that earn competitive interest rates. As Milk SA had significant interest-bearing assets in 2015, the company's income and operating cash flows were substantially affected by changes in market interest rates.

2.2.3 Credit risk

Trade receivables comprise a widespread base of levy-paying industry participants. The CEO, Executive Committee and Audit & Risk Committee evaluate credit risk relating to customers on an ongoing basis. Credit risk consists mainly of cash deposits and trade debtors. The company only deposits cash with major banks (as approved by the Board) with high-quality credit standing and limits exposure to any one counterparty. Milk SA's communication policy plays a huge role in strengthening confidence amongst especially the levy payers, its members (MPO and SAMPRO) and government institutions, in the integrity and achievements of the company.

2.2.4 Foreign exchange risk

Milk SA has no material foreign currency exposure. In 2015, foreign currency exposure was limited to some R900 000 because of membership fees to the International Farm Comparison Network and the International Dairy Federation, as well as the attendance of international conferences by industry members.

2.3 Production risk

Production risk is the risk of not achieving budgetary and operational goals of Milk SA due to external factors that may influence the income base and actual income of the company.

Milk SA is to a large extent exposed to production risk due to the unpredictable nature of the weather, pests and diseases, competitive markets for inputs and outputs (price risk) and unfavourable policy changes by local and foreign governments (institutional risk). It is Milk SA's policy to determine income for the ensuing year conservatively, by averaging the previous three years' milk purchases and imports as declared to Milk SA. Furthermore, the four-yearly budget (currently 2014 to 2017) provides for ample savings in the first two years, which could mitigate possible reduced income. Further mitigation is impossible due to the nature and scope of these risks.

2.4 Human resources risk

Human resources risk is the possible negative impact on all spheres of the company if the basic and motivational requirements of the employees and other key persons involved in the company are not adequately addressed.

2.4.1 Risk of claims against directors and senior officers

Milk SA maintains an insurance programme that provides cover for identified, insurable risks. As provided for in the Memorandum of Incorporation, Milk SA indemnifies its directors and senior officers for potential losses arising from a claim in their capacity as director or officer, unless the liability arises from conduct involving a lack of good faith.

During the year, Milk SA paid a premium in respect of an insurance contract insuring its directors and senior officers against liability of this nature.

2.4.2 Human Resources risks

A Human Resources Policy was introduced in January 2014 and is - by virtue of its Terms of Reference - annually reviewed by the Human Resources Committee in conjunction with the CEO. Employment contracts are in place and staff are evaluated by the CEO on a half-yearly basis. The CEO discusses the evaluation results with the staff members individually and appropriate steps are taken where required.

The CEO and Transformation Manager are annually evaluated by the Board and the Internal Management Committee: Transformation Programme Excluding Primary and Secondary Skills Development, respectively. The latter two bodies discuss the evaluation results with the afore-mentioned senior officers and appropriate steps are taken where required.

3. Trade and other receivables

	2015 R	2014 R
Levy debtors	2,354,697	1,813,357
Provision for impairment of trade receivables	(1,158,000)	(575,000)
Deposits	52,861	52,861
Accrued interest	-	41,051
Other receivables	357,547	427,855
	1,607,105	1,760,124

4. Cash and cash equivalents

Cash and cash equivalents consist of:

Reserve Funds	15,429,483	13,670,883
- Rand Merchant Bank: Term deposits	8,375,227	10,431,488
- ABSA Bank: Savings accounts	4,422,780	2,562,731
- ABSA Bank: Current account	2,631,476	676,664
Levy Funds	9,987,648	6,436,389
- ABSA Bank: Current account	9,996,527	6,432,942
- ABSA Bank: Credit card balances	(8,879)	3,447
	25,417,131	20,107,272

5. Fixed assets

	Cost / Valuation	2015 Accumulated depreciation	Carrying value	Cost / Valuation	2014 Accumulated depreciation	Carrying value
Furniture and fixtures	340,065	(311,703)	28,362	332,434	(283,874)	48,560
IT equipment	704,848	(569,139)	135,709	704,848	(492,259)	212,589
Computer software	10,730	(10,725)	5	10,730	(10,725)	5
Total	1,055,643	(891,567)	164,076	1,048,012	(786,858)	261,154

**Reconciliation of
fixed assets - 2015**

	Opening balance	Additions	Depreciation	Total
Furniture and fixtures	48,560	7,631	(27,829)	28,362
IT equipment	212,589	-	(76,880)	135,709
Computer software	5	-	-	5
	261,154	7,631	(104,709)	164,076

**Reconciliation of
fixed assets - 2014**

	Opening balance	Additions	Other changes, movements	Depreciation	Total
Furniture and fixtures	103,767	-	(20)	(55,187)	48,560
IT equipment	208,503	71,316	-	(67,230)	212,589
Computer software	5	-	-	-	5
	312,275	71,316	(20)	(122,417)	261,154

	2015 R	2014 R
6. Trade and other payables		
Trade payables	1,075,021	576,072
Provision for leave	16,771	83,262
VAT	67,191	181,107
Unidentified levies	252	-
	1,159,235	840,441
7. Revenue		
Levies	46,585,458	40,918,518
8. Projects / Statutory functions		
Consumer Education	17,553,012	14,797,414
Research and development	2,736,986	944,487
Industry Information	2,223,613	2,018,201
Dairy Quality and Safety	6,989,079	5,797,716
Transformation	7,661,478	6,453,196
Utilisation of reserve funds - Commercialization project	1,311,940	4,336,230
	38 476 108	34 347 244
9. Other income		
Grant received: National Treasury	1,033,325	1,419,000
10. Finance income		
Interest revenue		
Bank	110,789	22,045
Interest charged on trade and other receivables	208,047	170,182
Interest on reserve funds (2006 - 2013)	614,292	635,548
	933,128	827,775
11. Finance costs		
Interest paid on trade and other payables	26	-

12. Expenses by nature

	2015 R	2014 R
Depreciation	104,709	122,417
Accounting fees	706,425	683,204
Bad debts	180,000	97,299
Employee costs	1,453,944	1,752,773
Legal expenses	334,371	218,693
Meeting costs	814,466	605,469
Office rent	461,754	467,864
Provision for doubtful debts	583,000	263,235
Other expenses	696,140	694,474
Total operating expenses	5,334,809	4,905,428

13. Cash generated from operations

Surplus for the year	4,740,968	3,912,621
Adjustments for:		
Depreciation and amortisation	104,709	122,417
Loss on sale of assets	-	20
Interest received	(933,128)	(827,775)
Finance costs	26	-
Changes in working capital:		
Trade and other receivables	153,019	530,389
Trade and other payables	318,794	399,264
	4,384,388	4,136,936

14. Prior period error

Interest income and Utilisation of reserve funds - Commercialization project were overstated with an amount of R518 759 in the prior year.

These overstatements, which have a net effect of Rnil on the financial position and financial results of the prior period, were subsequently corrected.

	2015 R	2014 R
15. Auditor's remuneration		
Audit fees	76,595	69,451
16. Taxation		
No provision has been made for 2015 tax as the company has no taxable income.		
17. Related parties		
Related party transactions		
Project expenses paid to related parties for the execution of the projects of Milk SA		
Milk Producers Organisation NPC	3,804,667	3,181,919
SA Milk Processors Organisation	20,624,854	16,834,469
Agri Travel & Tours	-	288,636
Compensation to the Chief Executive Officer	1,229,438	1,148,689
Compensation to the Transformation Manager	1,033,200	916,656

18. Financial instruments by category

	Financial assets at amortised cost R	Financial liabilities at amortised cost R	Total R
Reconciliation of financial instruments by category - 2015			
Trade and other receivables	1,607,105	-	1,607,105
Cash and cash equivalents	25,417,131	-	25,417,131
Trade and other payables (excluding VAT and provision for leave)	-	1,075,273	1,075,273
	27,024,236	1,075,273	28,099,509
Reconciliation of financial instruments by category - 2014			
Trade and other receivables	1,760,124	-	1,760,124
Cash and cash equivalents	20,107,272	-	20,107,272
Trade and other payables (excluding VAT and provision for leave)	-	576,072	576,072
	21,867,396	576,072	22,443,468

19. Directors' remuneration

2015	Directors' fees	Total
PH Adams	17,500	17,500
CS Blignaut (Chairman)	102,520	102,520
AJB De Jongh*	-	-
FA Grobler	17,500	17,500
AP Kraamwinkel*	-	-
GF Kuyler	2,500	2,500
NJ Lok	45,000	45,000
MJ Loubser (Vice-Chairman)	25,000	25,000
AW Prinsloo	125,000	125,000
MG Rathogwa	37,500	37,500
TK Turner (Vice-Chairman)	5,000	5,000
CJ van Dijk*	-	-
J van Heerden	5,000	5,000
	382,520	382,520
2014		
CS Blignaut (Chairman)	79,376	79,376
JJ Dowry	2,500	2,500
FA Grobler	20,000	20,000
AP Kraamwinkel*	-	-
NJ Lok	60,000	60,000
MJ Loubser (Vice-Chairman)	27,500	27,500
AW Prinsloo	97,500	97,500
MG Rathogwa	10,000	10,000
TK Turner (Vice-Chairman)	17,500	17,500
J van Heerden*	-	-
DPA Schutte	7,500	7,500
	321,876	321,876

* The directors did not claim directors fees for their involvement in Milk SA. The remuneration paid to MG Rathogwa as Transformation Manager is reflected under related party transactions in note 17.

20. Going concern

The annual financial statements have been prepared on the basis of accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

21. Liquidity and solvency

The directors have performed the required liquidity and solvency tests required by the Companies Act 71 of 2008.



Detailed Income Statement

	Note(s)	2015 R	2014 R
Revenue			
Levies	7	46,585,458	40,918,518
Project expenses			
Projects/Statutory functions	8	(38,476,108)	(34,347,244)
Surplus		8,109,350	6,571,274
Other income			
Other income	9	1,033,325	1,419,000
Finance income	10	933,128	827,775
		1,966,453	2,246,775
Operating expenses (Refer to page 24)		(5,334,809)	(4,905,428)
Operating surplus		4,740,994	3,912,621
Finance costs	11	(26)	-
Surplus for the year		4,740,968	3,912,621

Operating expenses

	Note(s)	2015 R	2014 R
Accounting fees		(706,425)	(683,204)
Auditor's remuneration	15	(76,595)	(69,451)
Bad debts		(180,000)	(97,299)
Bank charges		(12,047)	(13,450)
Consumables		(22,023)	(21,503)
Depreciation		(104,709)	(122,417)
Employee costs		(1,453,944)	(1,752,773)
Inspection and Investigation		(181,656)	(113,932)
Insurance		(36,661)	(42,421)
Internal audits		(76,092)	(111,815)
Legal expenses		(334,371)	(218,693)
Loss on disposal of assets		-	(19)
Meeting costs		(814,466)	(605,469)
Office rent		(461,754)	(467,864)
Postage		(410)	(22,092)
Printing and stationery		(116,818)	(175,119)
Promulgation of Statutory Regulations		-	(15,958)
Provision for doubtful debts		(583,000)	(263,235)
Repairs and maintenance		(76,550)	(21,709)
Security		(7,645)	(10,825)
Small assets		(33,558)	(15,273)
Subscriptions		(10,151)	8,633
Telephone and fax		(30,398)	(62,114)
Travel - personnel		(15,535)	(7,426)
		(5,334,809)	(4,905,428)

Research & Development Reserve Fund

Analysis of Movement in Reserve Fund (Research & Development)

Surplus funds i.t.o. clause 15(5)(a) of the Marketing of Agricultural Products Act

	2012 - 2015 R Cumulative Actual	2015 R	2014 R
OPENING BALANCE	-	2,422,816	-
TRANSFERRED FROM COMMERCIALIZATION FUND	-	-	2,292,930
INCOME	2,631,555	67,308	129,886
Surplus funds i.r.o. R1220 of 23 December 2005	2,152,897	-	-
Interest	478,658	67,308	129,886
EXPENSES	(141,431)	-	-
Research & Development	141,431	-	-
- Work Groups	18,668	-	-
- Fund raising: Meeting with funding institutions	5,500	-	-
- WDS 2012 Attendance by Project leader	11,880	-	-
- Facilitation: WDS Programme on sustainability 2012	6,050	-	-
- Global Dairy Agenda for Action (GDAA): SA Rapporteur	550	-	-
- SA National Committee of the IDF	65,500	-	-
- Research Projects	27,742	-	-
- RPEC Committee Meetings	5,541	-	-
CLOSING BALANCE	2,490,124	2,490,124	2,422,816

Note: A reserve fund was originally created for the unused levy funds that accrued during 2006 to 2009, against which the Minister allowed expenditure on Research and Development, World Dairy Summit, Dairy Quality & Safety and the Commercialization Project. During 2014, the Research and Development funds were transferred to a separate reserve fund. As only the funds for the Commercialization Project eventually remained in this original reserve fund, it was named the "Commercialization Fund".

Promoting Sustainable Commercialization of Existing Black Dairy Producers

Analysis of Movement in Reserve Fund

Surplus funds i.t.o. clause 15(5)(a) of the Marketing of Agricultural Products Act

	2012 - 2015 R Cumulative Actual	2015 R	2014 R
OPENING BALANCE	-	11,994,325	13,846,913
INCOME	19,206,530	546,883	505,365
Surplus funds i.r.o. R1220 of 23 December 2005	13,285,772	-	-
Transfer of Unutilised Funds i.r.o. R57 of 30 January 2009	3,842,137	-	-
Interest	2,078,621	546,883	505,365
EXPENSES	(370,581)	-	(65,023)
	370,581	-	65,023
Support Services	62,871	-	5,771
- Veterinary Services	5,648	-	5,648
- Infrastructure	123	-	123
- Professional advice	57,100	-	-
Administration	307,710	-	59,252
- Meeting costs	102,019	-	1,395
- Travel: Road	87,870	-	35,166
- Travel: Air	47,459	-	9,981
- Accommodation	40,386	-	12,710
- Other	29,976	-	-
TRANSFERRED TO RESEARCH & DEVELOPMENT FUND	(2,292,930)	-	(2,292,930)
TRANSFERRED TO JOBS FUND	(6,235,136)	(2,233,325)	-
CLOSING BALANCE	10,307,883	10,307,883	11,994,325

Promoting Sustainable Commercialization of Existing Black Dairy Farmers

Analysis of Movement in Commercialization Fund
(Jobs Fund and Milk SA Contract)

	2012 - 2015 R Cumulative Actual	2015 R	2014 R
OPENING BALANCE	-	676,665	3,528,575
TRANSFERRED FROM COMMERCIALIZATION FUND	6,235,136	2,233,325	-
INCOME	2,452,755	1,033,426	1,419,297
Contribution received - Jobs Fund	2,452,325	1,033,325	1,419,000
Interest received	430	101	297
TOTAL EXPENSES	(5,706,362)	(1,077,816)	(4,155,277)
	5,706,362	1,077,816	4,155,277
Management Fees	1,029,494	703,394	326,099
Project Manager	228,339	26,739	201,600
Project Manager: Monitoring & Evaluation	521,232	506,628	14,604
Project team members	57,288	23,046	34,242
Project secretary	15,489	-	15,489
Expert consultant for assessment of cows	21,489	3,726	17,763
Car hire/ road transport	44,091	20,837	23,254
Accommodation	101,656	96,726	4,930
Airfare	37,706	25,693	12,013
Subsistence	2,204	-	2,204
Training (Consultants)	289,944	268,001	21,943
Professional Fees	289,099	268,001	21,098
Accommodation & meals	845	-	845
Capital Expenditure	1,349,838	105,400	771,627
Machinery & Equipment	105,400	105,400	-
Procurement of cows	1,244,438	-	771,627
Infrastructure costs (Eskom power)	3,035,019	-	3,035,019
Administration	2,068	1,021	589
- Bank charges	2,068	1,021	589
CREDITOR (VAT)	(350,054)	(234,124)	(115,930)
CLOSING BALANCE	2,631,476	2,631,476	676,665

* VAT is claimed on Jobs Fund expenses and must be refunded to the project





MILK SOUTH AFRICA / MELK SUID-AFRIKA

Milk South Africa NPC

Brooklyn Forum Building, C/o Veale & Fehrsen Streets, Brooklyn, Pretoria

PO Box 1961, Brooklyn Square, 0075

www.milksa.co.za