



# **Improvement of the quality of milk and other dairy products and compliance with legal standards**

(PRJ-0222-2019)

## **Dairy Standard Agency**

**Year 2019/2019** (January 2019 till December 2019)

### **Project goals**

#### **Goal 1 - National monitoring of milk and other dairy products in collaboration with Health Authorities**

##### **Achievements**

The quarterly sample runs for 2019 were successfully completed as per predetermined schedules. Based on four cycles and average 7 Metropolitan Municipalities, 18 District Municipalities and 75 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 per regulation. As during 2018 the cutback environment that government operates in, the expertise needed to regulate continued to fall short or too expensive to obtain. DSA in terms of its project protocol and relationships with the relevant authorities continued to work with the law enforcement bodies and provided support through dairy technical information, workshops and guideline documents to limit the sale of non-conforming product.

The total number of samples of milk and other dairy products analysed are as per table 1 below.

Table 1

| <b>Dairy Product</b>  | <b>Total</b> |
|---|--------------|
| Fresh milk in the categories named packed pasteurised and unpasteurised, pasteurised and unpasteurised retail bulk milk | 1129         |
| Flavoured milk  | 32           |
| Yoghurt including plain, flavoured and yoghurt with added fruit and/or foodstuffs and drinking yoghurt                  | 149          |
| Cultured milk, cultured buttermilk  | 116          |
| Butter  | 50           |
| Cream incl. cultured cream  | 80           |
| Cheese (various classes)  | 160          |
| Ultra-high pasteurised and sterilised milk  | 49           |
| Condensed and evaporated milk   | 23           |
| Powdered milk and powdered blend  | 22           |
| Dairy desserts and custard  | 28           |
| Dairy liquid blends   | 11           |
| <b>Total</b>  | <b>1849</b>  |

Samples were mainly submitted to DSA Laboratory Services as well as SANAS accredited laboratories as per standard procedure and results of 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 the Legal Metrology Act, 2014, (Act 9 of 2014). Non-conforming results obtained were assessed and communicated to the processors for further action. Contact details of participating authorities as well as processors were updated as per standard procedure. Non-conformance reports regarding added water, inhibitory substance positive, phosphatase positive and E.coli positive were also forwarded to the relevant authorities for further action.

It is important to note that sample populations of the four different categories of milk sampled in terms of the DSA national dairy monitoring program **are focused on a risk based approach** based on historical data as to identify possible non-conformities. It is generally accepted that more than 90% of packed fresh milk offered for sale in the retail, finds its origin from the estimated top 20 to 25 dairy processors on a national level. The remainder 10% of packed fresh milk access the market place through small and medium size enterprises competing geographically on a national basis. As was the case in 2018 the categories namely packed unpasteurised, retail bulk pasteurised and unpasteurised milk continuously indicated a negative compliance rate and remained a major concern and focus point of the DSA during 2019 in terms of critical food safety standards. The percentage of these substandard products may seem insignificant in relation to the total of fresh milk sold in South Africa, however is a persistent problem mainly due to poor control measures (law enforcement) and the unlawful sale of substandard milk to the end user.

DSA in terms of its project activities continued to extensively use its updated guideline developments to promote the improvement of the level of compliance of the above categories of products during 2019.

DSA also in terms of its project protocol and relationships with the relevant authorities (see project goals 5 and 6) continuously liaised with the relevant law enforcement bodies, providing support through dairy technical information, workshops and guideline documents to limit the sale of non-conforming products.

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

### **Goal 2 - Investigations regarding complaints received in respect of product compliance with legal standards**

#### ***Achievements***

Investigations regarding complaints related to:

- Product composition of milk and other dairy products;
- Sale of Bulk Cheese in the retail;
- Shelf life compliance of yoghurt products;
- Adulteration of butter;
- Presence of antibiotic residues in milk.

All complaints were documented and investigated.

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

### **Goal 3 - Special investigations**

#### ***Achievements***

## Adulteration of UHT milk with milk powder and related concentrated powders

Establishment of analytical method for the detection of added milk powder and milk protein concentrates to fresh milk and UHT milk continued during 2019 with the scientific report expected mid 2020.

### Listeria monocytogenes

A total of 205 samples were analysed for the detection of presumptive Listeria spp. during the DSA's National Milk Monitoring Program between July 2019 and September 2019. Out of the 205 samples, eight tested positive for presumptive Listeria spp. This included raw milk and cheese samples and upon further analyses, three of these eight samples tested positive for presumptive L. monocytogenes which have been sent to the University of Pretoria for confirmation. A full report was submitted to the DSA Board for consideration in November 2019.

### Aflatoxin M1

The Aflatoxin investigation initiated during 2018 was completed and a scientific report compiled end January 2019.

### Antibiotic project: A comparison of methods for determining antibiotic residues in milk

The project was established as collaborative work in conjunction with the Milk SA Research and Development Project of Milk SA. The purpose of this investigation/study was to:

- Determine by using the Randox Infiniplex test kit, (that is unique in its ability to detect a variety different analytes, and different antibiotic compounds, anti-inflammatory compounds, a flukicide and four other potentially harmful residues) if potential risk exist of the presence of specific chemical residues not normally tested for and detected by means of conventional screen tests in milk for final consumption.
- That if detected, such detected chemicals whether below or exceeding the maximum residue limits as prescribed by regulation as part of a formal report be used to sensitise industry regarding the prudent use of antimicrobial agents during milk production (IDF Guide 2103).
- To share selected data in a confidential manner with the Department of Health workgroup of experts on antimicrobial residues (AMR) in foodstuffs, serving on the Ministerial Advisory Committee on AMR, known as MAC with the view of improved policy making.

The final testing was completed end December 2019 and a preliminary report is to be shared with the Milk SA Research and Development Project of Milk SA in January 2020 prior to finalising the above objectives.

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

### **Goal 4 - Milk and other dairy product risk identification**

#### **Achievements**

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.

Reports on non-conforming results were forwarded to the respective government departments at the end of each cycle. Each participating municipality received a quarterly report on the analysis done of samples submitted. Non-conforming processors as well as processors whose contact details were verified and who requested to receive test results were provided with individual test reports. Quarterly reports to health authorities are indicated in Table 2 below

Table 2

| Province | Total |
|----------|-------|
| MP       | 51    |
| LP       | 63    |
| WC       | 59    |
| NW       | 67    |

|     |    |
|-----|----|
| GA  | 54 |
| FS  | 67 |
| NC  | 7  |
| KZN | 43 |
| EC  | 48 |

The DSA national dairy monitoring program provides for the sampling of the categories namely packed pasteurised and unpasteurised milk and retail bulk pasteurised and unpasteurised milk as well as other dairy products. Relevant information regarding food safety and compositional standards for milk and other dairy products were communicated to the dairy industry and other organisations.

#### NATIONAL AND INTERNATIONAL FOOD SAFETY AND RECALL MONITORING

International food risk monitoring – 18 different websites and RSS feeds\* were monitored on a weekly basis for possible food safety scares that might affect the local dairy industry:

#### REFERENCES:

1. Bill Marler - marler@marlerclark.com - Food Poison Journal
2. Centre for Disease Control & Prevention (CDC) cdc@service.govdelivery.com
3. Dairy Reporter.com
4. FACTSSA marketing@factssa.com
5. Food Focus
6. Food Focus News
7. Food Safety Magazine info@foodsafetymagazine.com
8. Food Standards Agency food.standards.agency@notifications.service.gov.uk
9. FoodStuffSA -DrinkStuffSA
10. Health & Safety Laboratory HSL@public.govdelivery.com
11. News 24
12. Medical Research Council MRC@public.govdelivery.com
13. National Institute of Allergy & Infectious Diseases (NIAID) niaid@service.govdelivery.com
14. National Institute for Communicable Diseases www.nicd.ac.za
15. Product Safety Australia
16. SAAFFI South African Association of the Flavour & Fragrance Industry
17. United States Food & Drug Administration fda@go.fda.gov
18. USDA Food Safety & Inspection Service [usfsis@public.govdelivery.com](mailto:usfsis@public.govdelivery.com)

Continuous monitoring did not reveal any direct threats from food safety incidents and product recall to the South African consumer.

Special attention was given to the presence of Listeria, the presence of antibiotic residue on raw milk and milk products as well as milk ring test (brucellosis in raw milk). Industry reports regarding the prevalence of Brucellosis in milk herds in certain provinces and consumption of unpasteurised remained a public health concern.

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

#### **Goal 5 - Remedial action programs with the processors and distributors**

##### ***Achievements***

Quarterly milk and other dairy product sample results once processed were forwarded to the respective PD's and processors/manufacturers. These activities were followed by means of interaction with PD's and processors/manufacturers regarding non-conforming test results as

well as recommendations for corrective actions. Communication is done either by means of a telephone call, e-mail report, posted report or a visit to the facility. Environmental Health Practitioners (EHP's) were also requested to communicate all test results to the relevant parties. DSA technical personnel provided the respective processors and producer/distributors and retailers (milk shops) with comprehensive reports after the visits that are also used for further reference purposes.

Table 3

| Province | Number of facilities that received visits |
|----------|---|
| MP       | 51  |
| LP       | 38  |
| WC       | 28  |
| NW       | 49  |
| GA       | 37  |
| FS       | 30  |
| NC       | 3   |
| KZN      | 19  |
| EC       | 23  |
| Total    | 278                                       |

\* Producer distributors (PD's) are defined as milk producers that are also engaging in the packing, distribution and selling of milk whether raw or as heat treated milk and may include other dairy products.

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

### **Goal 6 - Communication with the authorities and other organisations**

#### ***Achievements***

Communication with authorities and other organisations

Department of Health: Directorate Food Control

As a continuous activity DSA in a supportive role, assisted the industry members with queries relating to food labelling, food safety and food additive requirements as well as dairy technical matters. DSA liaison with DOH focused on the identification and surveillance of residues of antibiotics of critical importance for both humans and animals as well feedback on Codex Committee activities.

Municipal Health Authorities

Communication with the municipal health authorities mainly focused on interpretation of food safety legislation and elements of law enforcement as per the health regulations under the Foodstuffs, Cosmetics and Disinfectants Act with specific reference to retail unpasteurised and pasteurised bulk milk, certificates of acceptability.

Department of Agriculture, Land Reform and Rural Development (DALRRD).

Directorate: Inspection Services (IS)

Following the ongoing High Court application a directive issued on 23 August 2019 from the Acting Deputy Director, Directorate: Food Safety and Quality Assurance, choosing as a result of the High Court application brought by Milk SA against the Department, to instruct officials not to execute their mandate based on information generated by the DSA and that inspection shall be carried out independent of any influence whatsoever from Milk South Africa. The Acting Deputy Director was cordially informed that DSA is primarily funded by a statutory levy imposed by the Minister of DALRRD upon processors and manufacturers of dairy products in terms of the Marketing of the Agricultural Products Act, 1996 to enable it to fulfil its mandate. This includes

assisting the Directorate, the Executive Officer and its inspectors in identifying compliant and non-compliant processors and manufacturers in the dairy industry which enables them to identify and then conduct efficient and effective inspections of those members who are non-compliant.

The above situation directly influenced the DSA in forwarding cycle results regarding infringements in terms of the Regulations relating to dairy and imitation dairy products, in terms to the Inspection Services. No results were forwarded to the assignee before and subsequent the resumption of services pending the High Court application.

Directorate Food Safety and Quality Assurance – FSQA (policy making)

Communication with FSQA regarding dairy product compositional matters and the interpretation of the Regulations relating to dairy and imitation dairy products continued. Formal communication with DALRRD: FSQA also continued regarding the circulation and commenting on the second draft amendment of the Regulations relating to dairy and imitation dairy products.

National Regulator for Compulsory Specifications (NRCS): Legal Metrology

Standard procedure provides for a quarterly report regarding metrology infringements to the Senior Manager, Inspections: Legal Metrology NRCS. 2 formal complaints were raised with NRCS.

Perishable Product Export Control Board (PPECB)

Since the filing of papers in the High Court by the Woodlands/Milk SA joint application against matters relating to the latest appointment of an assignee, no further developments regarding the PPECB SOP regarding dairy export took place during 2019.

South African Bureau of Standards (SABS)

DSA participated as member in the activities of the Technical Committee SABS TC 70/SC 4, Legal Metrology - sale of goods as well as the SABS TC 034 SC 17 Food products – Hygiene practices in the food industry and technical committee. Committee work resulted in the publication of SANS 10049 and the draft SANS 10330 (HACCP) for public comment. Outcomes were communicated via the Regulations and Standards Project of Milk SA to industry.

### **Communication with other organisations**

Milk SA, MPO and SAMPRO

DSA attended the Advisory Committee meetings on which it serves and also interacted on a regular basis with the project managers of the Milk SA Consumer Education Project and SAMPRO Training, MPO Institute for Dairy Technology as well as the Project co-ordinating committee of the Milk SA (DSA, CEP and R&D Project of Milk SA).

The Project management of the Regulations and Standards Project of Milk SA consulted regularly with the organised dairy industry with specific reference to the appointment of the DAFF Assignee and regulatory matters. Regular interaction between the project management and the Milk SA legal team continued during 2019. The managing director with permission of the Board attended the European Dairy Quality conference in Amsterdam during 11 to 15 November 2019 as well as visited Qlip (Netherlands) who is the preferred supplier of international standards for the calibration of industry high frequency measuring equipment. A scheduled meeting also took place at the Wageningen University to establish a standing relationship on development of analytical methods with regard to food fraud detection in milk and other dairy products.

### **Milk SA funded DSA additional project: Standardisation of standards for calibration of laboratory equipment**

Liaison with industry members continued regarding the Milk SA project relating to the standardisation of standards for calibration of laboratory equipment resulting in the following progress made. The laboratory is fully functional, by supporting the DSA statutory monitoring project of milk and other dairy products. The delay experienced regarding the official commissioning of the standardisation project continued with issues relating to the issue of a master import permit from to be issued by DAFF veterinary offices due to a revised veterinary import procedure. Extensive work has been done regarding the extension of the DSA Lab Services in respect of the establishment of somatic cell count as well as diagnostic testing in the interested of the organised dairy industry

CGCSA: FSI – DSA as member of the Food Safety Initiative (FSI) interacted on a regular basis with the management of FSI regarding matters relating to regulations under the Foodstuffs, Cosmetics and Disinfectants Act, Agricultural product Standards Act and the DAFF appointed Assignee.

EHEDG: European Hygienic Engineering and Design Group – DSA serves as committee member of the South African Regional Section of EHEDG. The EHEDG provides a balanced

forum for food processing equipment manufacturers, users and legislators to discuss issues concerning hygienic design and to stimulate food safety and quality.

IDF – DSA MD is a member of SANCIDF and of the IDF Standing Committee: Standards of Identity and Labelling and nominated to the IDF Standing Committee for food additives. The managing director attended meetings as participant of the arranging committee for the IDF WDS 2020 in Cape Town.

SANCU - DSA as member of SANCU communicates with the SA National Consumer Union regarding dairy food safety and quality related and attend general meetings where applicable.

SASDT - DSA MD as member of the management committee of the Northern region participated in the SASDT management meetings and general meeting during the fourth quarter.

TERTIARY INSTITUTIONS – DSA served as a member of the Advisory Boards of the Departments of Environmental Health of the Tshwane University of Technology (TUT) as well as Nelson Mandela Metropolitan University. The purpose of the advisory boards is to give industry inputs and assist the universities with the development of course material for Environmental Health Practitioners.

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

### **Goal 7 - Liaison on legislation with authorities and other organisations**

#### ***Achievements***

Although a blended role of activities exist it is important to note that the work of the Regulations and standards project of Milk SA project is not a duplication of this DSA project. The fundamental difference of Project 7 relates to the relationship and involvement of DSA as self-regulatory initiative with government structures and execution of the law. The Regulations and standards Project of Milk SA relates to participation in the formalisation of draft regulations and standards and comments on regulatory matters, as well as communication through Milk SA in the interest of the dairy industry and other stakeholders.

DSA continued liaison with the authorities regarding the following legislation and standards:

#### **1. Department of Health: Directorate Food Control**

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

Regulations relating to milk and dairy products R1555/1997

Global standards for food additives

Codex Committee comments on Food Hygiene

#### **2. Department of Agriculture, Land Reform and Rural Development (DALRRD)**

##### **Agricultural Product Standards Act, 1990 (Act 119 of 1990)**

Publication of the Regulations relating to the classification, packing and marking of dairy products and imitation dairy products intended for sale in RSA (R1510/2019)

#### **3. Non-compulsory South African National Standards – SABS**

SANS 10330: Food safety - Requirements for a Hazard Analysis and Critical Control Point (HACCP) system.

#### **4. Codex Alimentarius and ISO**

Amendments to the "Codex General Standard for Food Additives

Codex Committee comments on Food Hygiene

#### **DSA Technical Committee**

The technical workgroup activities in 2019 were mainly focused on projects relating to the investigation into the establishment of infrastructure regarding supply of standardised standards used for the calibration of laboratory equipment in the local dairy industry, special investigation into food fraud: adulteration of local and imported milk and other dairy products and testing for antibiotic residues in milk and completing the Listeria case study of 2018. Technical committee work regarding comments in the draft R260 of 2015 dealing with dairy and imitation dairy products was done through the Regulations and Standards Project of Milk SA.

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

### **Goal 8 - Information and education**

#### ***Achievements***

DSA presented information sessions based on the DSA Code of Practice and related guideline materials to professional EHP's as well as 256 student EHP's, on a national level, at the respective tertiary institutions. These information sessions are also available to other professions and government/municipal officials, milk producers, processors and distributors that require information regarding food safety and quality standards on a national level.

| <b>University</b> | <b>Amount of students attending</b> |
|-------------------|-------------------------------------|
| CPUT              | 23                                  |
| DUT               | 20                                  |
| MUT               | 25                                  |
| UJ                | 22                                  |
| TUT               | 53                                  |
| CUT               | 71                                  |
| NMU               | 14                                  |
| UP                | 28                                  |

Two information sessions were held at the University of Pretoria main campus and Onderstepoort to 3rd and 4th year students respectively.

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

### **Goal 9 - Media communication**

#### ***Achievements***

DSA signed contractual agreements with Veeplaas and Agri Connect. Project work resulted in 6 advertisements, 6 advertorials, 3 talks on national radio stations, 2 Milk SA Essay booklet publications and two video podcast recordings.

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

### **Goal 10 - Development of guideline documentation**

#### ***Achievements***

Work on the update of the DSA Code of Practice for Milk Producers with specific reference to biosecurity as well as animal welfare following the publication of the latest SANS 1694, The welfare of dairy cattle has been initiated. Subsequent DSA audit criteria based SANS 1694 has been developed in support of the dairy industry compliance with animal welfare criteria. The

update of the DSA Code of Practice for the Secondary Industry as a result of amendment of the latest SANS 10049 and latest Regulations relating to dairy and imitation dairy products also resulted in amendments on the draft COP until end 2019. Publication of reviewed codes of practices is foreseen in mid-2020.

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

**Goal 11 - Milk SA Regulations and Standards Project** The project relates to dairy technical issues, regulations and standards and encompasses industry involvement regarding: <sup>■</sup> Deliberation of industry regulations relating food safety, product composition, metrological and related standards as well as voluntary industry related standards e.g. animal welfare and related matters. <sup>■</sup> Liaison with industry and statutory bodies in terms of draft, promulgated and repealed legislation and effective communication through the Milk SA organisational structures. <sup>■</sup> Liaison and consultation on an internal and external basis and comment within specified time frames via Milk SA organisational structures. <sup>■</sup> Report to industry via Milk SA structures.

### ***Achievements***

#### **Regulations and Standards Project of Milk SA**

The Regulations and standards Project of Milk SA relates to participation in the formalisation of draft regulations and standards and comments on regulatory matters, as well as communication through Milk SA structures in the interest of the dairy industry and other stakeholders.

The Advisory Committee of the Regulations and Standards Project communicated electronically during 2019 and members participated in matters relating to proposed new and revised legislation and standards. The Advisory Committee also through its Management Committee communicated relevant legislation, voluntary standards and related matters where applicable regarding food safety, product composition and metrology to the organised dairy industry. Members of this management committee namely Messrs AP Kraamwinkel (chairman) and J Burger (project manager) also acted as Milk SA representatives in the joint Woodlands/Milk SA High Court application against the respondents namely the Minister of DALRRD, the executive officer and assignee in terms of the Agricultural Product Standards Act.

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

## **Income and expenditure statement**

|                                    |   |
|------------------------------------|---|
| Income and expenditure statement   | <a href="#">Desember Maandstate 2019 - BI 1-5.pdf</a> |
| Unnecessary spending during period | No  |

## **Popular Report**

[DSA Annual popular report for 2019.pdf](#)

## **Additional documentation**

No file has been uploaded

# Statement

|   |     |
|---|-----|
| Levy funds were applied only for the purposes stated in the contract  | Yes |
| Levy funds were applied in an appropriate and accountable manner  | Yes |
| Sufficient management and internal control systems were in place to adequately control the project and accurately account for the project expenditure | Yes |
| The information provided in the report is correct   | Yes |